AMERICAN ANNALS

OF

The Deaf,

ORGAN OF THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF,

EDITED BY

IRVING S. FUSFELD

UNDER THE DIRECTION OF

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ELLA CELYNDA JORDAN

SEPTEMBER 6, 1852—JANUARY 13, 1920

Ella Celynda Jordan, the Principal of the Horace Mann School in Boston, died at her home in Newton Lower Falls, Massachusetts, on January 13, after a long illness, borne with great patience and fortitude.

Miss Jordan had taught and served the deaf in the Horace Mann School since September, 1872, filling successively the positions of assistant, first assistant, assistant principal, and—for nine years—that of principal.

In her first years of service she sometimes taught pupils older than herself; and so strong and lasting was her influence over them, that some of those first pupils, owing to their affection for her, were constant in inquiries and visits to the school during her last illness.

Miss Jordan was an enthusiastic, painstaking, and thorough teacher. In later years she specialized in history, following the most approved methods. Her classes were always alert and interested, ever seeking in the world without for connections with what she had taught them in the classroom.

As an administrator she always had the forward look, and was ever ready to try the new things if they appealed to her common sense; but she never allowed herself to stray aside for fads. Her one great desire was for good speech, and she worked

for it early and late. To this day many elderly and middle-aged visitors say with pride, when complimented on their speech, "Yes, Miss Jordan taught me."

The peculiar administration of the Horace Mann School, under state and city, entails many administrative intricacies not always easy to untangle, but Miss Jordan not only managed them all discreetly, but made herself loved by every official with whom she came in contact. During her illness the teachers were made aware of this affection on the part of everyone, from the Commissioner of Education and the Superintendent, to the workmen who came to repair the building.

For, far more than teaching or administrative ability was her quiet doing for others. She never let an opportunity pass to do a kindness or give a pleasure.

She was passionately fond of flowers, and some of her happiest hours were those spent in her garden. The children at school, her friends who were ill, and all who shared her love of flowers, were remembered as her beautiful bulbs and plants came into bloom.

Lowell's familiar words might have been written especially for her:

> She doeth little kindnesses
> Which most leave undone, or despise:
> For naught that sets one heart at ease,
> And giveth happiness or peace,
> Is low-esteemèd in her eyes.

MABEL ELLERY ADAMS,
Principal of the Horace Mann School,
Boston, Massachusetts.

PRELIMINARY EDUCATION OF DEAF CHILDREN [1]

Lest any of you be misled by my title into assuming that I am somewhat of an educator or the son of one, I hasten to disclaim any such pedantic relationship. Whatever information I may be able to impart on this subject is largely the result of personal observation, gained in the sphere of social work among the deaf of my locality during the past few years.

I think we all must feel a sense of pride as we contemplate with satisfaction the marvelous strides which our beloved country has made in the matter of general kindergarten training. The practical advantage of maintaining centers for the benefit of all children, irrespective of class or station, is now recognized as the part of wisdom. Common sense dictates that the education of children is not a matter that can be left to chance. Early preparation ofttimes signifies half the battle won. They should not, as an eminent educator says, have a period of hanging around and waiting until they are six years old, when the time for beginning their education comes.

Now, what holds true of normal children, who at least have the advantage of unconscious education gained through the ears, must apply with still greater force to our little deaf friends, who not only "hang around," but in the majority of cases, enter their educational period (if at all) with minds stunted in growth. Thus, right at the start, the deaf child is not only at a disadvantage, but is not even subject to the general compulsory laws.

[1] Read before the Thirteenth Triennial Convention of the National Association of the Deaf, Detroit, Michigan, August 10, 1920.

My friends, let us for the moment put aside the eternal wrangle of the educational "methods" and confine our attention now solely to the formative period of our children.

I maintain that it is not so much their deaf-mutism, *per se,* as the lack of *early preparation* which tends to arrest their mental development. To what would you ascribe the backward mentality of some of the deaf (as compared with normal children of the same age) if not to that unfortunate period of mental inactivity? The solution of course is to send them to school early, "a consummation devoutedly to be wished for." But, alas! we must reckon with parents and guardians, many of whom through ignorance or other causes persist in keeping their children at home. The difficulty is that many have no means of ascertaining a child's deafness during its infant years. Or, if they do, I should think they are loath to admit it, preferring to coddle the little one a little longer—lured on perhaps by this or that probable remedy, until they are rudely reminded that it is getting late. Many instances of delayed education, due to these causes, can be cited. Worse still, there is the one who, finally recognizing that the child is deaf after all, hesitates as to the proper course to pursue and wonders if there is any educational institution in existence that will receive it, though long past the kindergarten stage.

And now, behold the incongruous spectacle of state institutions for the deaf actually advertising for such cases! I am sure you must realize how inconsistent this arrangement, or rather lack of it, must be. Shall the child's future welfare, dependent on its education, hang on the caprice of Time, until the advertisement of some institution for the

deaf finally attracts the parent's eye? Shall it be left to sentiment and the desultory vacillation of certain guardians who settle down to complacent acceptance of their child's fate?

I do not for a moment depreciate the able work performed by our institutions for the deaf, but they are certainly not in a position to pry into thousands of homes to locate possible cases of deafness. I submit that it is the province of the state to know *who* and *where* its deaf-mute children are. Hospitals for the sick do not advertise for patients. State institutions for the deaf ought not. Census reports will not be able to accomplish much in bringing to light the desired information, for the reason that they are far between, lack accuracy, and parents do not always care to divulge vital facts on which they are sensitive. What then is the remedy?

Let us urge uniform state legislative enactment, whereby all physicians and medical practitioners be required *to report to the state board of education each and every case of deafness* among children, sixteen years of age and under, met with in the course of their practice. Failure to make such a report within one month after its discovery, should be penalized. After the state board of education (or other suitable agency) shall have obtained all the required information, on blanks especially designed for this purpose, it shall communicate the essential facts to the local board of education or nearest school for the deaf, which in turn should notify the parents with regard to the child's requirements, and coöperate in its preliminary training to the extent of sending qualified visiting teachers to its home, when necessary. It should further be the duty of the state board of education (or its agency)

to obtain a semi-annual report from the local authorities as to what has been accomplished educationally for each deaf child on its records, until each case is finally disposed of. Such a law would not alone benefit the children themselves, but also be of immeasurable value to that noble army of men and women teachers now engaged in the laborious task of educating the deaf, for the standard of average merit in education at the time of the pupil's admission will have been raised more nearly to that of normal.

In the State of Pennsylvania, my friend, Mr. D. Ellis Lit, is energetically pressing such a measure. I am indebted to him for a copy of "an act" which is likely to be introduced at the next session of the Assembly, and which is endorsed by the Pennsylvania Society for the Advancement of the Deaf.

With the kind assistance of the Society for the Welfare of the Jewish Deaf, I also had a resolution along the same lines presented before the New York State Legislature last year. Governor Smith, Surrogate Justice Foley, Senator Miller, and Assemblyman Ellenbogen, are a few public men who have expressed themselves in favorable terms.

Now, my friends, I desire that the National Association of the Deaf make this a national issue to the end that every state enact this progressive legislation for the benefit of its deaf children. These are stubborn facts which we cannot and should not evade. Let us remember that these children—the rising generation—are the ones who eventually will have to bear the burden when we lay ours down. We must, therefore, leave no stone unturned to equip them educationally—and as *early* as possible.

The task is mainly ours; ours, as elder brothers and sisters, to make right; ours to see that these tiny tots, doomed like us to travel the long road of Silence, be not neglected. God knows that there is silence enough. Now, "let there be light!"

MARCUS L. KENNER,
Editor of the Jewish Deaf,
New York City.

A MENTAL AND EDUCATIONAL SURVEY OF SCHOOLS FOR THE DEAF

During the winter and spring of 1918–19 mental and educational tests were given by the writers to about 2,500 deaf children. These children were pupils in fifteen state institutions and eleven public day-schools in nine different states. It is proposed to describe the chief results of this survey in a series of three articles. The present one is to be followed by two others, entitled "Problems Raised by the Survey of Schools for the Deaf" and "Individual Differences Measured by Psychological Tests."[1]

The tests used were the Pintner Non-Language Group Tests[2] and an Educational Survey Test,[3] both constructed with the deaf child in mind, but both equally well adapted to the hearing child. The

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[1] A detailed scientific account of the work will appear shortly in the *Psychological Review Monographs*, under the title "Mental and Educational Measurements of the Deaf," by J. C. Reamer.

[2] Pintner, R., "A Non-Language Group Intelligence Test," *Journal of Applied Psychology*, Vol. III, Sept. 1919, pp. 199-214.

[3] Pintner, R., and Fitzgerald, F., "The Use of Abbreviated Forms of Some Standard Educational Measurements," *Journal of Educational Psychology*, April, 1920.

non-language test was designed as a mental examination to test primarily the native ability of the child unaffected by the things he learns in school. No language is required in order to give or take this test. The educational test is a composite derived from the standard educational tests and is designed to give as accurate a measure as it is possible to get in a brief period of the general educational attainment of the child. The tests have been described at length in the three references given above, and the worker planning to use the tests with the deaf must be referred to the monograph by Reamer, in which will be found detailed directions for giving, scoring, and evaluating the results.

A word must be said here about the standardization of the tests. About 2,500 children were tested. For the purposes of standardization all records of children who were reported as having sufficient hearing to understand loud conversation, or as being merely hard of hearing, were discarded. In addition, all cases of children who took only one of the tests were discarded. There were also incomplete records, such as those that had no age indication, and so forth. This reduced the number to 2,172, the number of cases used in the standardization. It is, therefore, a standardization based entirely upon deaf children, and the results of the two sets of tests are comparable because in all of the cases both tests were used. It was found impracticable to give the tests in the beginning classes and this was, therefore, not attempted.

The ages of the children ran from eight to twenty-one plus. As there were relatively few eight-year olds, our norms for this age are not reliable. The age distribution of the cases was as follows:

Age.	Number of Cases.	Age.	Number of Cases.	Age.	Number of Cases.
8	22	13	260	18	112
9	63	14	313	19	91
10	96	15	312	20	53
11	151	16	227	21+	82
12	219	17	171		

The distribution of the scores at each age is fairly regular. That is, the tests seem to distribute the children over a fair range and divide them into poor, average, and good, and, therefore, we can assume that our tests are giving us fair measures. We are strengthened in this belief also by the fact that the median, or middle score from age to age, shows a substantial increase, these increases naturally becoming smaller in the higher ages.

The method of standardization was to calculate percentile scores for each age group. In order that one could compare directly and accurately the rating on the one test with the rating on the other, these percentile values were then converted into so-called indices. The index represents the distance in terms of standard deviation of any score from the median of the group. Instead of standard deviations themselves being used, we have converted them into index values running from 0 to 100. The reader unacquainted with the technique of educational measurements need only remember the significance of these indices. Fifty per cent of the total number of cases fall between the indices 40 and 59. This may be called the average or normal group. The next lower group, comprising 22.8 per cent of the total number, includes indices from 20 to 39. This group is designated backward. The lowest 2.2 per cent of the cases show indices from 0 to 19 and may be considered the dull or feeble-minded group. The 22.8 per cent of cases just above the average or middle group

have indices from 60 to 79. This group should be called bright or superior. The highest 2.2 per cent of cases include indices from 80 to 100. These are the very bright or very superior children.

Indices.	Description on Mental Test.	Type of Performance on Educational Test.
0 to 19	Dull	Very Poor
20 to 39	Backward	Poor
40 to 59	Normal	Average
60 to 79	Bright	Good
80 to 100	Very Bright	Very Good

The advantage of such an index is that it can be used for both series of tests; that is, after the crude scores have been converted into percentiles, the conversion into an index gives us an absolute measure of the child's standing. Because the significance of the index is the same for both series of tests, we can subtract the one from the other and have a single figure which represents the relation between the educational and the mental ratings of the child. If the educational index be subtracted from the mental index, the average child, that is, the one doing educational work which matches his native ability, will show a very small or zero significance. The differences in the group considered normal or average are from plus 10 to minus 10.

This difference is an important diagnostic value. It is to get such a difference that the indices have been obtained. Our standardization of both tests has been restricted to those cases that have taken both tests in order to be able to arrive at this difference and to give it diagnostic significance. This difference expresses the relationship between the child's mental ability and his educational attainment regardless of his actual ability or attainment. If children of any degree of mental ability are doing

educationally what is ordinarily accomplished by such degrees of mental ability, they will all have a difference approximating zero.

Those differences clustering around zero, say from minus 10 to plus 10, indicate that mental ability and educational attainment are in harmony, that they are well balanced, that accomplishment is worthy of the native ability possessed by the child, whether that ability be very great, medium, or very poor. In the same way, large plus differences are diagnostic of greater educational achievement than is ordinarily found with the given ability in question. Large minus differences are indicative of wasted ability; they denote children who have more mental ability than they are making use of in their scholastic work.

The standardization and method of evaluation of our tests give us, therefore, three important values:

1. The Mental Index, being a measure of the degree of intelligence possessed by the child.

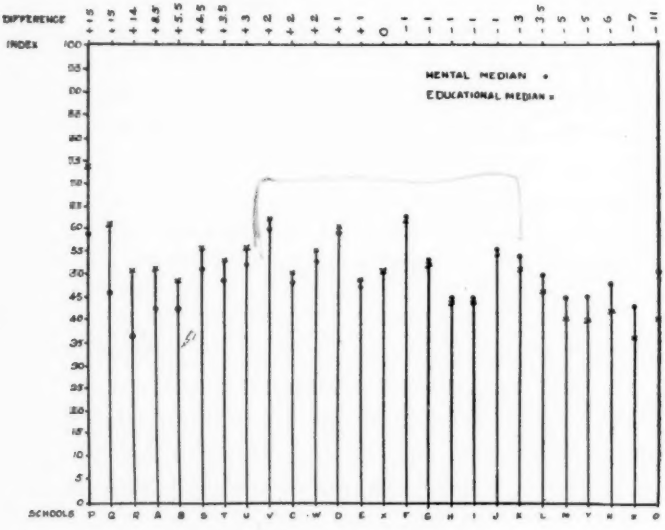
2. The Educational Index, being a measure of the degree of educational accomplishment attained by the child with reference to children of his own age.

3. The Difference, being a measure of the relationship between mental ability and educational accomplishment.

We have, therefore, a double rating for each child —a mental index and an educational index. In order to get a rating for any school we have merely to take the median mental and educational indices. This median is the middle index after we have arranged all the indices of the children in order of merit from the highest to the lowest, and counted down from the highest, or up from the lowest, to the middle value. It is very much like the average, and for psychological purposes a little better than the

average. The median mental index of a school will give us a rating of that school's mentality, and the median educational index will give us a rating of the school's educational achievement. Subtraction of the median mental index from the median educational index gives the "Difference," which indicates whether the school is doing better or poorer educational work than the mentality of the pupil material warrants. Therefore, the "Difference" serves to denote by a single, simple value the standing of the school.

FIGURE I.—SCHOOLS ACCORDING TO DIFFERENCES BETWEEN INDICES



COMPARISON OF SCHOOLS

Figure I shows the twenty-six schools arranged in rank according to this "Difference." The range of differences is from plus 15 points to minus 11

points. This difference between the mental and educational medians for each school is given on the top of the graph. The advantage of such a graph is to show at a glance exactly where any one school stands in comparison with the others. The schools are arranged in the order of the difference from the highest plus differences down to zero difference, and then up to the highest minus differences. Those schools having plus differences, that is, where the median educational index is above the mental, are schools that are accomplishing more educational work than is ordinarily accomplished in schools for the deaf, taking into account the mental caliber of the pupils. This may be said to be true of the schools denoted by the letters P, Q, R, A, B, S, T, U. Conversely, those schools having minus differences are schools that are accomplishing less than is ordinarily accomplished, again taking into due consideration the mental caliber of their pupils. In these schools there is good mental material going to waste. The schools are not using the intelligence of their pupils to the best advantage. This is true of the schools at the right-hand side of the picture, where in each case the mental index is higher than the educational. These schools are K, L, M, Y, N, Z, and O. Between the two groups already mentioned lies an intermediate group, schools V, C, W, D, E, X, F, G, H, I, and J, where the difference between the two indices is so small as to indicate that the schools are doing average work in comparison with the mental ability of their pupils. School X, in this group, actually has the same index both mentally and educationally, and, therefore, has a difference of zero.

To sum up our groups, we may say that the first group is exploiting to the full the intellectual resources of its pupil material; the second group is

sadly wasting these resources; and the third, or intermediate group, is maintaining a normal output.

In addition to this general comparison of groups of schools, the graph enables us to make more detailed comparisons between schools which have about the same mentality or about the same educational attainment. If we take, for instance, schools A and B, with children of exactly the same mental caliber, we note that A is doing somewhat better educational work than B, showing that school B has the possibility of doing better work. The differences may arise from any number of causes which are not brought out by the tests.

On the other hand, if school A is compared with school R, which has very much poorer mental stock to work with, we see that school R is doing practically as good educational work as school A. Or again, let us take several schools of about the same mental caliber, say an index of 45, which is a little below average, and compare the educational work of the same schools. Schools Q, H, I, M, and Y have all a mental index of 45 or 46. School Q, however, has an educational index of 61, schools H and I of 44, whereas, schools M and Y drop down to 40. The superintendents of schools M and Y ought to be greatly concerned as to why their schools, possessing as good mental material as H and I, are, nevertheless, so far below them educationally. Is the organization of the school at fault, or the methods of teaching or the quality of the teachers, or the attendance of the pupils, or what?

It is interesting to note further that good mental caliber in a school does not guarantee good educational attainment. We note schools of good mentality doing poor educational work as well as good educational work. School O has good pupil material, but is doing poor educational work. Con-

versely, we note that the school with the poorest mental material, school R, is doing creditable educational work. These and similar comparisons, which our graph allows, should prove of great value to the earnest and progressive superintendent.

COMPARISON OF DAY-SCHOOLS AND INSTITUTIONS

In Table I, given below, the institutions are represented by the letters A to O, inclusive, while P to Z, inclusive, denote the day-schools. There are included in this tabulation 15 institutions and 11 day-schools. They are arranged in the order of differences, from the highest plus to the highest minus difference. Out of 11 day-schools, 9 show zero or plus differences of mental and educational indices, while only five of the fifteen institutions show plus indices.

TABLE 1.—SCHOOLS ARRANGED IN ORDER OF DIFFERENCES OF INDICES

School.	Difference.	Median Indices: Mental.	Educational.	Number of Children.
*P	+15.0	59.0	74.0	4
*Q	+15.0	46.0	61.0	9
*R	+14.0	36.5	50.5	10
A	+ 8.5	42.5	51.0	244
B	+ 5.5	42.5	48.0	164
*S	+ 4.5	51.0	55.5	52
*T	+ 3.5	49.0	52.5	128
*U	+ 3.0	52.0	55.0	57
*V	+ 2.0	60.0	62.0	17
C	+ 2.0	48.0	50.0	113
*W	+ 2.0	52.5	54.5	62
D	+ 1.0	59.0	60.0	127
E	+ 1.0	47.0	48.0	93
*X	0.0	50.5	50.5	38
F	— 1.0	62.5	61.5	100
G	— 1.0	53.0	52.0	93
H	— 1.0	45.0	44.0	51
I	— 1.0	45.0	44.0	26
J	— 1.0	55.0	54.0	156
K	— 3.0	54.0	51.0	182
L	— 3.5	49.5	46.0	118
M	— 5.0	45.0	40.0	149
*Y	— 5.0	45.0	40.0	9
N	— 6.0	48.0	42.0	119
*Z	— 7.0	43.0	36.0	9
O	—11.0	51.0	40.0	42

* Day-schools.

Examining the median mental indices in the table we find the usual supposition borne out that the day-schools attract the brighter children. Fifty-four and five-tenths per cent of the day-schools show median mental indices above 50, while only 40 per cent of the institutions show mental indices above 50. Eighty-one and eight-tenths per cent of the day-schools show median educational indices above 50, while only 46.6 per cent of the institutions are doing average or above average work. This may be summarized as follows:

PERCENTAGE OF SCHOOLS WITH MEDIAN INDICES OF 50 OR ABOVE

Tests.	Day-schools.	Institutions.	Difference in Percentages.
Educational	81.8	46.6	35.2
Mental	54.5	40.0	14.5
Difference			20.7

This shows 20.7 per cent better results obtained by the day-schools. This comparison seems to bear out the statement that the better results obtained by the day-schools are apparently due to factors other than the native ability of the children.

DISTRIBUTION OF MENTAL AND EDUCATIONAL RATINGS IN EACH SCHOOL

Table 2 gives the percentages of children in each school distributed for the mental test into five groups: dull, backward, normal, bright, and very bright. For the educational test there are, likewise, five groups designated very poor, poor, average, good, and very good. At the bottom of the table is to be found the distribution for the 2,172 cases.

TABLE 2.—PERCENTAGE DISTRIBUTION FOR EACH SCHOOL

Mental Test:						School.	Educational Test:					
Total.	Dull.	Backward.	Normal.	Bright.	Very Bright.		Very Poor.	Poor.	Average.	Good.	Very Good.	Total.
99.9	5.7	34.4	44.7	14.3	0.8	A	0.4	19.7	56.5	23.0	0.4	100.0
100.0	5.5	38.4	45.1	10.4	0.6	B	7.9	39.6	40.2	11.6	0.6	99.9
99.9	0.9	31.8	42.5	21.2	3.5	C	....	20.4	61.0	17.7	0.9	100.0
100.1	....	4.7	45.7	44.1	5.6	D	0.8	3.9	44.9	43.4	7.1	100.1
99.9	1.1	23.6	58.0	15.0	2.2	E	1.1	23.6	61.3	14.0	....	100.0
100.0	....	8.0	27.0	60.0	5.0	F	....	6.0	39.0	49.0	6.0	100.0
100.0	1.1	17.2	52.7	24.7	4.3	G	....	17.2	49.5	32.2	1.1	100.0
100.0	....	33.3	45.1	21.6	....	H	2.0	33.3	47.0	17.7	....	100.0
99.9	....	26.9	50.0	19.2	3.8	I	7.7	26.9	46.2	19.2	....	100.0
99.9	0.6	12.8	51.2	32.7	2.6	J	0.6	9.7	55.8	31.4	2.6	100.1
99.8	0.5	11.5	53.8	31.8	2.2	K	....	17.6	61.0	20.8	0.5	99.9
100.0	1.7	16.1	61.0	20.4	0.8	L	....	28.8	58.5	12.7	....	100.0
100.0	2.7	32.9	49.0	15.4	....	M	3.4	43.6	41.0	12.1	....	100.1
100.0	1.7	26.9	51.2	20.2	....	N	3.4	38.6	42.8	14.3	0.8	99.9
100.1	4.8	26.2	50.0	16.7	2.4	O	7.1	42.8	42.8	4.8	2.4	99.9
100.0	....	....	50.0	50.0	....	P	....	....	25.0	75.0	....	100.0
99.9	....	33.3	44.4	22.2	....	Q	....	22.2	22.2	55.5	....	99.9
100.0	....	60.0	40.0	....	....	R	....	20.0	50.0	30.0	....	100.0
100.0	3.8	13.5	61.5	21.2	....	S	....	9.6	48.1	30.8	11.5	100.0
100.0	1.6	17.9	59.4	20.3	0.8	T	....	15.6	50.0	32.0	2.3	99.9
100.0	....	15.8	50.9	33.3	....	U	....	19.3	36.8	40.4	3.5	100.0
100.0	....	11.7	35.3	53.0	....	V	....	23.5	23.5	47.0	5.9	99.9
100.0	1.6	4.8	71.0	21.0	1.6	W	3.2	16.1	40.3	38.8	1.6	100.0
99.9	....	18.4	60.5	21.0	....	X	2.6	23.7	42.0	31.6	....	99.9
99.9	....	33.3	66.6	....	....	Y	....	44.4	55.5	....	....	99.9
99.9	....	44.4	22.2	33.3	....	Z	11.1	44.4	11.1	33.3	....	99.9
99.97	1.98	22.0	50.09	24.15	1.75		1.66	22.53	49.4	24.51	1.79	99.89

One can compare schools for the percentage of children falling in any group by simply running down the column. Some schools show considerable differences when the dull group on the mental test is compared to the very poor group on the educational test, or the backward compared to the poor group, and so forth.

COMPARISON OF INSTITUTIONS AND DAY-SCHOOLS AS TO THE PERCENTAGES OF PUPILS IN THE FIVE GROUPS

Table 3 gives a distribution of the children into the five groups according to whether they are in institution schools or public day-schools.

TABLE 3.—DISTRIBUTION OF ALL CASES INTO FIVE GROUPS—NON-LANGUAGE TEST

Group.	Institutions:		Day-schools:		All Cases:	
	Number of Children.	Per cent.	Number of Children.	Per cent.	Number.	Per cent.
Dull	38	2.14	5	1.27	43	1.98
Backward	411	23.10	67	16.95	478	22.00
Normal	860	48.40	228	57.69	1,088	50.09
Bright	432	24.30	93	23.51	525	24.15
Very Bright	36	2.03	2	0.50	38	1.75
Total	1,777	99.97	305	99.92	2,172	99.97

Examining the percentage of dull children on the mental test in the two types of schools, we find the institutions showing 2.14 per cent and the day-schools only 1.27 per cent; a difference of 0.87 per cent, or not quite 1 per cent. The backward groups show a difference of 6.15 per cent. The normal groups present a difference of 9.29 per cent. These three differences are all in favor of the day-schools, indicating a smaller percentage of below-normal pupils and a larger percentage of normal. The next two, or highest, groups show differences in favor of the institutions, that is 0.79 per cent, or not quite 1 per cent, more bright, and 1.53 per cent more very bright children. Here we seem to have a rather balanced distribution of mental ability for the two types of schools. Although the day-schools do not have quite so many dull and backward children, neither do they have so many bright or very bright children.

Comparing the institutions and day-schools on the Educational Scale by groups, as indicated in Table 4, we find that the very poor groups show a difference of 0.79 per cent, the poor groups a difference of 5.63 per cent, and the average groups a difference of 8.20 per cent. These differences are in favor of the day-schools, or, in other words, the institutions

turn out that much higher percentage of poor or average educational work. The two highest groups also show differences in favor of the day-schools. The good groups give a difference of 12.71 per cent and the very good a difference of 1.83 per cent.

TABLE 4.—DISTRIBUTION OF ALL CASES INTO FIVE GROUPS—EDUCATIONAL TEST

Group.	Institutions:		Day-schools:		All Cases:	
	Number of Children.	Per cent.	Number of Children.	Per cent.	Number.	Per cent.
Very Poor	32	1.80	4	1.01	36	1.66
Poor	419	23.58	71	17.95	490	22.53
Average	905	50.90	169	42.70	1,074	49.40
Good	395	22.20	138	34.91	533	24.51
Very Good	26	1.46	13	3.29	39	1.79
Total	1,777	99.94	395	99.86	2,172	99.89

A comparison of these differences on the mental and educational tests would seem to show that both the institutions and day-schools make the most of their poor mental material. With the bright children, however, we note that the percentage of these cases in institutions is really slightly in excess of that in the day-schools, but in the corresponding educational groups we find the most marked differences. It would seem that this is the group which profits most from the methods used in the day-schools, as well as from the more individual attention made possible in such schools. The final comparison for the superior group shows the institutions favored in numbers, but it appears from the educational test that they do not make so much out of this native ability as do the day-schools. This lack of attention to the brighter pupils on the part of the institutions is reflected in the percentage of average pupils in the educational test, which is higher than the percentage of normal on the mental

test. Evidently the institutions are content to let many of the brighter children do merely average educational work.

It does not seem possible to draw any other conclusions from these results than that the children in the two types of schools, on the whole, are approximately of the same caliber, and also that day-schools do turn out pupils with better educational attainment. Is this due to better teaching, smaller classes, more normal life out of school hours, or to mingling with hearing or semi-deaf people? These are interesting questions that merit further consideration, for they cannot be answered from the results of these tests alone.

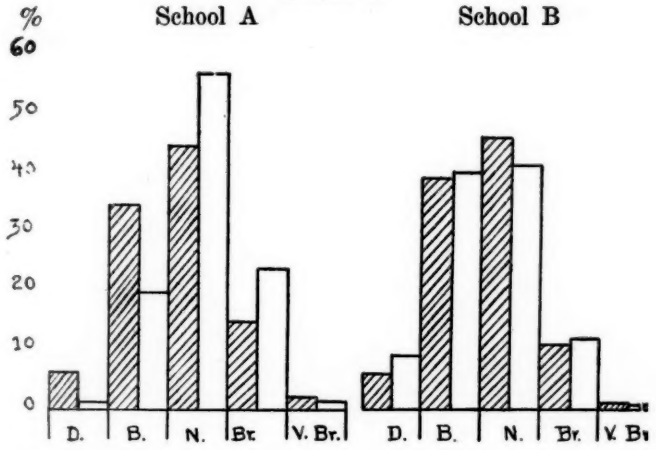
ANALYSIS OF MENTALITY AND EDUCATIONAL ATTAINMENT OF EACH SCHOOL

In addition to the comparison of schools that we have made so far, we can also analyze more in detail the make-up of each school, particularly from the point of view as to what it is doing educationally with the mentality at its disposal. Our double measure of the pupil material allows us to do this very thoroughly. We can raise such questions as: Are there more children shown doing poor work on the educational test than there are dull children mentally? Are there more mentally average children than educationally average? If so, where are they? Have they been pushed up the educational scale or have they slipped back? These displacements may arise from any number of causes, such as teaching conditions, temperament of children, physical and social conditions, et cetera.

Figure II gives a picture for each of the twenty-six schools tested, in terms of percentages of children in each group on the two test series. The shaded areas represent the non-language or mental groups, while the white areas show the five groups on the educational test. To indicate good educational work the white areas should be equal to, or less than, the shaded areas in the "dull" and "backward" groups, while the white columns for "normal," "bright," and "very bright" should equal or exceed the shaded areas.

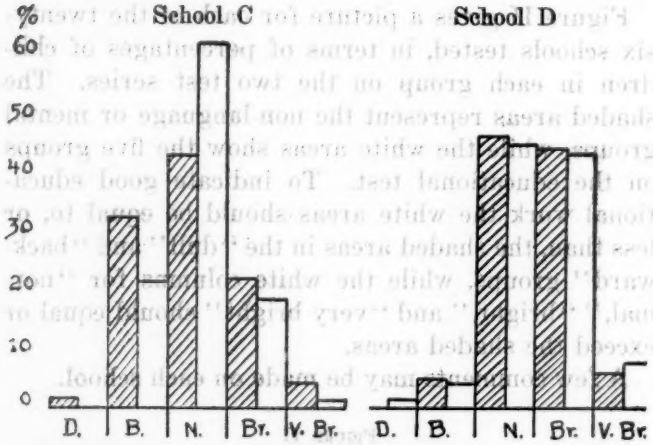
A few comments may be made on each school.

FIGURE II



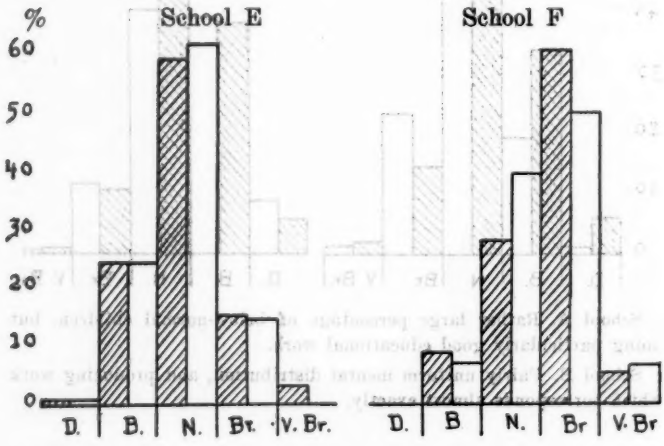
School A. Rather large percentage of below-normal children, but doing particularly good educational work.

School B. Fairly uniform mental distribution, and producing work which corresponds almost exactly.



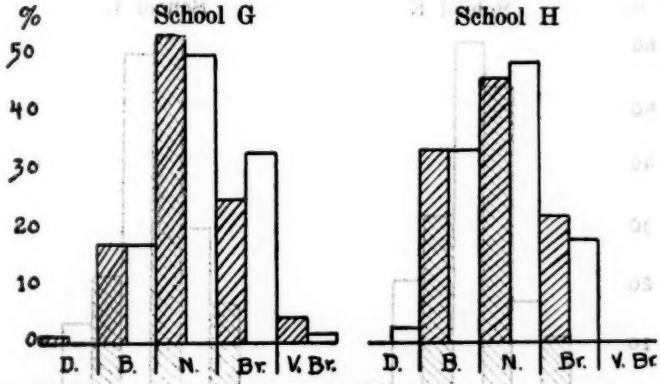
School C. Large percentage of backward pupils, but a good showing in normal educational work, indicating that many of those who are backward mentally are doing average work.

School D. A larger number than usual of normal and bright children, doing the kind of work which should be expected of them.



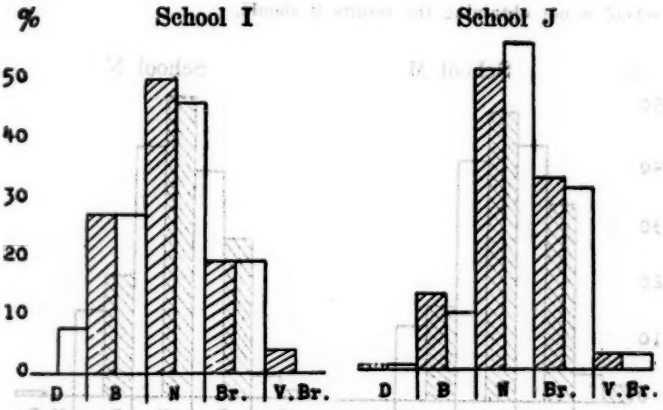
School E. Rather high percentage of normals. All groups attain the educational levels which are to be expected.

School F. Unusual number of bright students not doing quite all that might be hoped for. Many are evidently doing only average work as indicated by the excess in the white column at normal. The normal and very bright groups show more educationally than ordinarily would be expected.



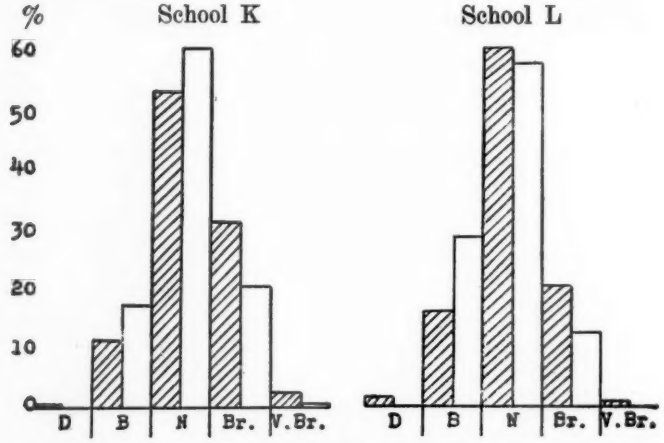
School G. Shows good work with normal children, because many must be doing good educational work. Seems to be a tendency to neglect the very bright and let them slip down from very good to merely good work.

School H. Represented by only the three middle groups mentally, shows a tendency to let the educational attainment slip back slightly.



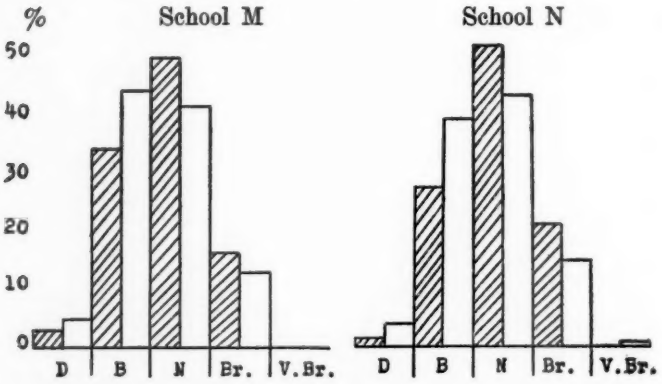
School I. Fairly normal distribution mentally, but it does not utilize the very bright material and allows far too large a percentage of very poor educational accomplishment. Very bright pupils neglected.

School J. A very small number of low-grade mental children; shows only fair educational work.



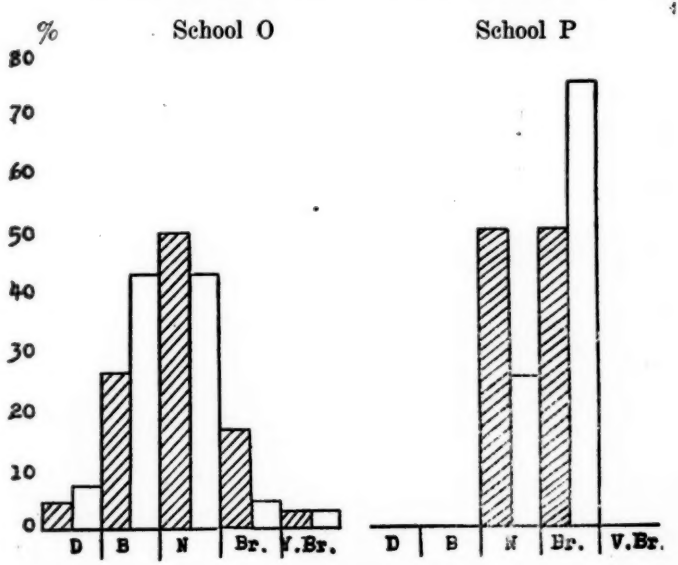
School K. Doing very well educationally with the normal and dull groups, but there is room for improvement in the other groups.

School L. Shows a normal distribution of mental ratings in each of the five groups. However, with the exception of the dull group, this school is not obtaining the results it should.



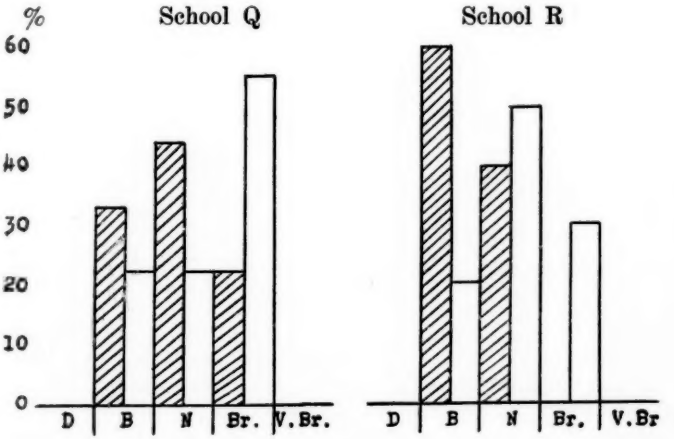
School M. Rather a large percentage of backward children compared to the other groups, but even so, better educational results could be obtained. There is a tendency to let many normal children fall back into poor educational work.

School N. Normal mental distribution of children, but poor work in all groups, except in the very bright group, and that is very slight.



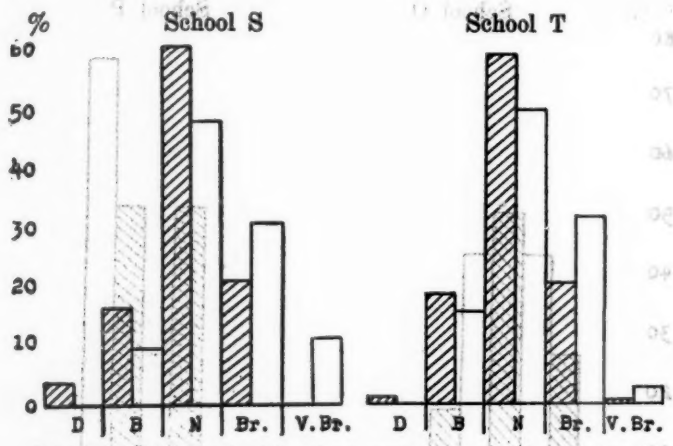
School O. Normal mental distribution and very poor educational work, except in the very bright group.

School P. Unusual mental grouping. Good educational work inasmuch as about half of the normal children are doing good work.



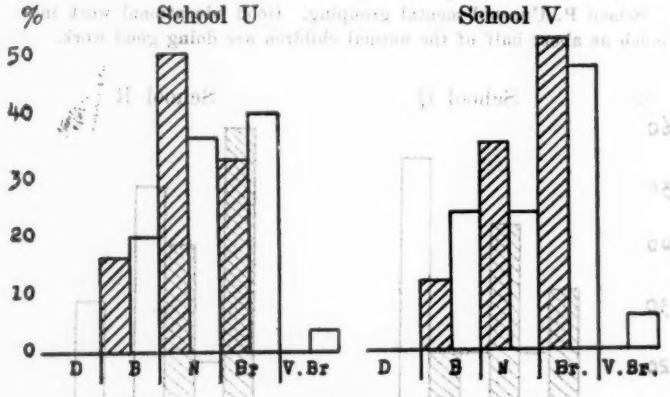
School Q. No dull or very bright pupils, but a large percentage of backward. Very good educational work, because many of the backward are obviously accomplishing average work and many of the normal are doing good work.

School R. With only backward and normal children to deal with, this school is doing splendid educational work.



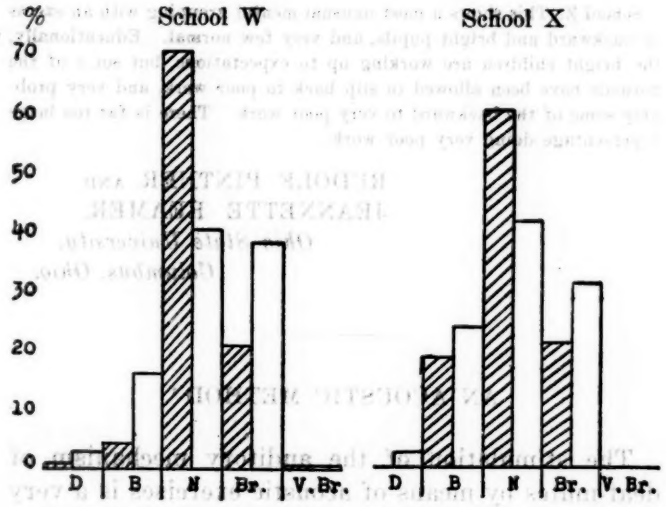
School S. This school with only a small per cent of superior students is doing very fine educational work.

School T. With a rather large amount of average material this school is doing more than should be expected. It is pushing its normal material up into the good class.



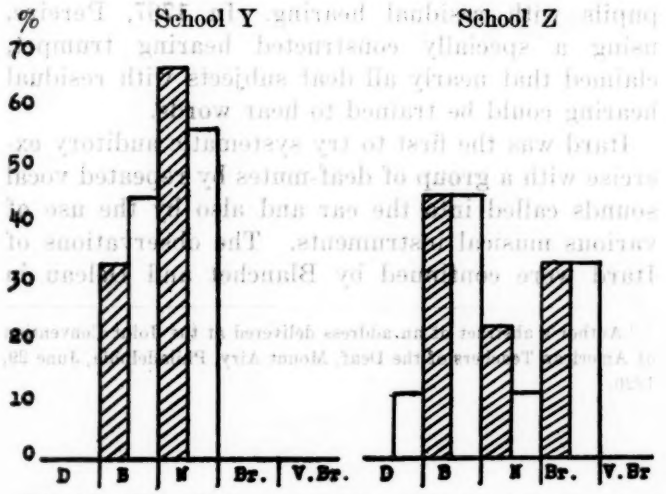
School U. Has a large proportion of bright pupils and is doing very good work. Many of the bright are accomplishing very good work, and many of the normal must be doing good work.

School V. Very irregular school. Some bright children obviously pushed up to very good work, but some normal allowed to slip back to poor work. Seems to indicate an emphasis on the bright child, an emphasis which is very exceptional.



School W. Overwhelming number of normal children. Good educational attainment with many of these, but many are also allowed to slip back into poor work. Emphasis of the school very uneven. There seems to be no consistent policy.

School X. Other than not showing any pupils at either extreme this curve is quite symmetrical for the mental grouping. The educational work is about average. A few are pushed up to good work, and a few are allowed to drop back to poor and very poor work.



School Y. With only the two mental types to deal with, this school is doing very poor educational work for those it has.

School Z. This shows a most unusual mental grouping with an excess of backward and bright pupils, and very few normal. Educationally, the bright children are working up to expectations, but some of the normals have been allowed to slip back to poor work, and very probably some of the backward to very poor work. There is far too large a percentage doing very poor work.

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AN ACOUSTIC METHOD [1]

The stimulation of the auditory mechanism of deaf-mutes by means of acoustic exercises is a very ancient idea. Archigenes in the first century, Alexander of Tralles in the sixth century, and Guido Guidi in the sixteenth century advocated such stimulation by the production of noises and loud shouting.

In 1761, Ernaud demonstrated differentiation by voice sounds as taught to a selected class of deaf pupils with residual hearing. In 1767, Pereire, using a specially constructed hearing trumpet, claimed that nearly all deaf subjects with residual hearing could be trained to hear words.

Itard was the first to try systematic auditory exercise with a group of deaf-mutes by repeated vocal sounds called into the ear and also by the use of various musical instruments. The observations of Itard were continued by Blanchet and Deleau in

[1] Author's abstract of an address delivered at the Joint Convention of American Teachers of the Deaf, Mount Airy, Philadelphia, June 29, 1920.

France and by Beck, Jager, Wolff, and Frank in Germany. Toynbee, in England, emphasized the importance of auditory exercises for all deaf pupils with residual hearing. Wilde endorsed the opinion of Toynbee. After an apathy of twenty years, American teachers of the deaf stimulated a revival of this subject. Gallaudet, Currier, Gillespie, and W. E. Taylor carried on their observations with groups of the semi-deaf.

Alexander Graham Bell, Gordon, and Clark investigated the work of Itard and commended the idea of awakening the auditory apparatus by means of sonorous vibrations.

To Urbantschitsch, of Vienna, belongs the credit for extensive research and active accomplishment in this field. In 1893, he gave the first practical public demonstration of his work with pupils of the Döbling State Institute for the Deaf before the Medical Association of Vienna. It was my privilege to be in Vienna during the period of development of this work at the Austrian State School and at the demonstration of Urbantchitsch before the Medical Association of Vienna, and it was the impression gathered at this time and the convincing evidence of practical results that actuated me to further research in this field.

In April, 1897, I demonstrated the results of two years' work by means of acoustic exercises before the American Academy of Ophthalmology and Oto-Laryngology in St. Louis.[2] This demonstration was presented to my own otological colleagues. It was a difficult problem to arouse their interest and practical coöperation. Perhaps an earlier recognition of the importance of an acoustic method would have

[2] The detailed report of this demonstration appeared in the *Laryngoscope*, June, 1897 (vol. ii, no. 6).

been effected had such a demonstration been presented to a convention of teachers of the deaf. Within the past few years, however, there has been an awakening to the importance of this question and a wave of earnest inquiry is surging through the land. Now the medical profession, as well as the teacher of the deaf, is in a receptive mood.

Another epoch in our activities with acoustic exercises was created with the founding of the Central Institute for the Deaf in St. Louis in 1914. Even though our classes have been comparatively small, our opportunity for study and observation was unrestricted and we planned and plodded toward a better understanding of this special training. The principles and practice of acoustic training have always impressed me as being thoroughly sound and scientifically logical, and as my association with the actual pedagogy of the deaf became more intimate, I began to wonder why such a method was not more generally applied, why institutions and teachers throughout the land were not more enthusiastic about it, and why the unusual and satisfactory results of Urbantschitsch abroad, and of the work at the Wright Oral School and of the Central Institute for the Deaf at home, could not be duplicated by other teachers and many groups of pupils. After a careful analysis of every factor, I concluded that the causes were: lack of information of this work by the teaching profession; lack of available literature; and, finally, lack of a practical and detailed working system.

The purpose of this paper is to place for impartial consideration the adoption of an acoustic method by presenting a careful analysis of our observations and experience, by submitting literature and references, and by offering a systematic series of

exercises with charts and directions so that every teacher may have data at hand for an acceptable and comprehensive plan of work.

The literature of otology is voluminous in its presentation of nerve deafness and of the physiology and pathology of the nerve-perceiving apparatus of the ear. The most marked advance in this field of investigation has been made during the past ten years in the definite comprehension of the physiological and pathological status of the labyrinth and in the problems of cerebral localization. These scientific principles, together with a thorough comprehension of the physics of sound and the theories set forth by Helmholz of the functions of the cochlea, are essential to a liberal understanding of the questions involved in the application of acoustic training.

I have attempted a classification of nerve deafness into four groups, each group representing a different pathological and a different prognostic value as studied in the light of modern pedagogy and psychology:

Group I. Deafness due to pathological changes in the peripheral or end-organs of the ear; the tissues of the auditory centers in the brain may be normal. (Labyrinthine.)

Group II. Deafness due to pathological changes in the substance of the auditory nerve in its course from the internal auditory meatus to the base of the brain; the sensory end-organ in the labyrinth may be normal. (Central.)

Group III. Deafness due to congenital absence of a part or all of the cochlear nerve in any area of its distribution; the auditory nerve trunk and nerve center in the brain may be normal. (Labyrinthine.)

Group IV. Deafness due to absence or arrested development of the auditory nerve in its trunk or central location in the brain; the sensory end-organ may be normal. (Central.)

We may conclude that in Groups I and II the application of music stimulation may reëducate auditory nerve cells and fibers and overcome the paresis acoustica or other toxic or inflammatory pathology which has occurred in these tissues by constitutional invasion. It may even be possible in Group III, where a healthy central auditory apparatus and a congenital absence or differentiation of the peripheral or acoustic mechanism exist, to develop some other avenue of conducting sensory impressions by special training.

If my classification could be definitely corroborated by careful functional tests, it would make selective pedagogy practically possible in these cases.

From our practical observations with the acoustic method, we are justified in the conclusion that not only semi-deaf pupils but those heretofore classified as totally deaf may exhibit definite progress by acoustic training.

In planning our course of training of the acoustic method in the Central Institute for the Deaf, we have directed that every pupil in the Oral School shall receive daily systematic training of this character, irrespective of the degree of deafness, the age of the pupil, or scholastic status. We have devised individual record charts, and every step in the progress of the individual pupil is here noted. We believe that a careful analysis of these charts and a few years more of experience will lead to a comprehensive working system enabling all instructors to be placed on the same pedagogic plane and all deaf pupils to be given equal opportunity for develop-

ment by acoustic training. It is my sincere opinion that the main reason for the many unsuccessful attempts and indifferent results in the use of the acoustic method is the desultory, aimless, and unsystematic form of procedure which has discouraged teacher and pupil alike and given rise to many misconceptions and misunderstandings about this special pedagogy.

There will be disappointments in the results, there will be imperfections in the practical work of this system, but we ask your indulgence and your coöperation so that we may study together the many problems that must arise and be solved before a thoroughly feasible working plan can be perfected.

There has been much misunderstanding concerning the acoustic method of training the deaf. In the literature of the profession we find mention of "Oral Method," "Auricular Training," "Oral Gymnastics," "Acoustic Exercises"—titles which may lead us astray by the manifold interpretations and confusion of terms. If the work here presented is regarded as of sufficient importance and dignity to justify its taking a place with other pedagogic systems, we desire to term this the "Acoustic Method."

The principles of the acoustic method are based on sound vibration and sound interpretation through the auditory nerve apparatus, both peripherally and centrally considered. Let us assume the case of a totally deaf child as the most exacting test to which the acoustic method may be subjected. The pupil has been examined by a competent otologist conversant with all the modern principles and theories of auditory function. The pupil has been tested by every musical agent known, to determine the presence or absence of an acoustic impression. He does not hear the human voice, tuning forks, the piano,

organ, accordion, gong, clarinet, or other reed, wood wind, or stringed musical instrument in any pitch. He does not react to the tests to determine the presence of a functioning vestibular apparatus.

We conclude that this pupil, at the time of making such functional test, is totally deaf, at least as far as the response from his peripheral acoustic mechanism is concerned. We assume that the pupil has been taught by lip-reading and speech the elementary vowels, or at least some of them. Or, we may even occasionally begin with a young pupil who has not even had this preliminary training.

We classify our plan of work into (1) Passive Education, (2) Active Education. We term the process of stimulation with musical instruments, a stimulation received by the child without conscious effort on his part, as Passive Education. To simplify our work and concentrate our observations we employ two musical instruments at the Central Institute—a specially constructed harmonium for Passive Education; the human voice for Active Education. The accordion used is a duplicate of the one constructed for Urbantschitsch over twenty-five years ago for the acoustic training instituted by him and used with pupils at the Austrian State Institute for the Deaf at Döbling. This harmonium has a range of six octaves in the musical scale.[3] The tone limitation is from Contra F to E'.

The three dimensions of sound—volume, pitch, and timbre (quality)—are always kept in mind in acoustic training. Volume of sound is increased or

[3] A special harmonium of six octaves is now being constructed, the notes of which may be individually or collectively conducted to the ear with a volume, quality, pitch, and duration varied and measured at will. A further detailed description of this musical apparatus will be published shortly and schools and teachers will be advised where it can be obtained.

diminished to fit each given case. Pitch is developed at the earliest possible period. As soon as a child responds to a musical sound vibration, an attempt is made not only to develop perception of a second sound, but also to formulate in the auditory and mental response a differentiation of pitch. Timbre, or voice quality, is an important factor in Passive Education, and the employment of various musical instruments prepares the pupil for a perception and differentiation of the various timbres of the voices to which he is later subjected in Active Education and when brought in touch with the voices of other teachers.

All pupils trained by the acoustic method should be given at least ten minutes instrumental stimulation daily in addition to the acoustic exercises for developing appreciation of spoken language. These instrumental vibrations should be continued throughout the entire course of acoustic training, for by their use the entire range of the organ of Corti is constantly subjected to stimulation and inactive or dormant tone islands awakened to greater potentiality.

It is difficult to make an accurate test of residual hearing, especially when an instrument producing very intense vibration is used. Older pupils will differentiate between tactile and auditory impressions, but the younger ones can rarely do this. Intense tones are often conveyed directly to the auditory nerve through bone conduction and are received as tactile impressions rather than as auditory impressions.

After the residuum of hearing has been sufficiently developed to enable the deaf pupil to hear the human voice, we begin the process of Active Education.

This training has as its fundamental purpose the stimulation of the auditory end-organ and the development of mental impressions to the degree required in differentiating intensity, pitch, tone, color, and duration of vocal sounds; then to a comprehension of vowels, consonants, words, phrases, and sentences. We divide Active Education into (a) Analytic Form and (b) Synthetic Form.

Analytic exercises are composed of single vowels and groups of vowels and various combinations of syllable drill. Language is thus separated into its component parts. Such exercises are given the pupil in order to develop actual auditory perception without the aid of an association of ideas.

Synthetic exercises are used to develop a comprehension of spoken language. Words, phrases, sentences, and stories comprise these exercises. Words are classified in family groups, as to initial consonants, accented vowel, and number of syllables. Phrases and sentences are broken up into syllables, given with prolonged tone at first, then shortened to normal duration. As many rhythms as possible are applied to each phrase and sentence. Various accents and inflections are also given.

Analytic exercises should precede synthetic exercises in the case of the pupil who has a sufficient auditory residuum to hear voice when training is begun, and also in the pupil in whom perception for voice has just been developed by Passive Education. It is through the analytic exercises that the pupil's attention is focused on definite acoustic impressions and the hearing power stimulated independent of word imagery. Sufficient practice in analytic exercises will overcome delayed and incorrect responses to spoken language and create perception for actual

acoustic impressions. It is much easier for the pupil to interpret synthetic acoustic exercises as the association of ideas naturally aids in such interpretation. It will be found, however, that a neglect of the analytic method and over-development of the synthetic method will produce an end-result of auditory inaccuracy and physiologic inefficiency.

Note: The unabridged monograph from which this abstract has been prepared will be issued in pamphlet form shortly. With it will be included a series of working charts for individual and class instruction as prepared by Miss Lilla B. McKenzie of the Central Institute for the Deaf, St. Louis, Missouri.

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St. Louis, Missouri.

EFFECTS OF TRADE TRAINING ON THE SCHOOL LIFE AND AFTER-SCHOOL LIFE OF OUR DEAF GIRLS

Nothing is said in this paper about language classes and physical training because these are not the subjects to which I am addressing myself. They are, of course, of paramount importance—the foundation of all our work—and upon the strength and stability of this foundation depends not only the successful building up, but the very existence, of the superstructure.

Training is given at the Oak Lodge School for Elder Deaf Girls, in two trades, dressmaking and laundry work. There are two rooms for dressmaking, the Junior Room for girls from thirteen to fourteen years of age, and the Senior Room for girls from fourteen to sixteen, and for scholarship girls who are over sixteen years of age.

Every girl who enters Oak Lodge is sent into the Junior Dressmaking Room for three months. Thus we find out those who are best fitted for that work. Some girls prefer the laundry. Some girls give up needlework from physical disabilities—defective eyesight, for instance—others from dislike of the sedentary life. But all are given the chance of the three months' trial.

In the Junior Dressmaking Room the girls are trained not only in needlework, but in neatness, cleanliness, and good business methods from the very first. Instead of the desks of the classroom they see long tables arranged with white covers, with a chair for each girl, just as they will see it in the business workroom. All girls in turn are made responsible for the neatness and tidiness of their room, as well as for the putting out of the work during the morning and afternoon sessions.

They are taught to handle different kinds of material, and to become familiar with their names, uses, and cost. They are encouraged to *observe,* both as a whole and in detail. Good models are used, and the artistic faculty is aroused by carefully chosen fashion plates and lessons in drawing and painting. Most important of all, by means of conversation, the use of blackboard, and their own notebooks, the lessons given are driven home, and the deaf girl becomes familiar with the new words necessary to her trade—a definite knowledge acquired to meet a definite need.

In the Senior Room, the girls are trained to a still higher plane of neatness, accuracy, cleanliness, and quickness by speed tests. They work upon every kind of material as it comes into fashion. Their taste is cultivated by lessons in painting and design-

ing. They are encouraged to make their own designs and to carry them out in braiding and embroidery with colors of their own choice, and also to cultivate their powers of observation by taking notice of dresses in good shops and to give expression to this by means of sketches. They are sent out to match materials and colors, and to buy on their own responsibility. The elder girls are trained to help the younger ones working at the same table in any of their minor difficulties. They are also brought out to help with the fitting of dresses and blouses, a practice very useful to them when they make dresses in their own homes. Finally, after fitting, making, and packing their handiwork, they put the finishing touches to it by making out the bill.

A personal pride in work done is cultivated. The specimens of different stitches are marked with the name and age of the worker and the time consumed in the work. These are wrapped in tissue paper and kept with the utmost care and cleanliness in special books made by each worker. Throughout, care is taken that the language keeps pace with the knowledge gained, so that, when the start is made in the business workroom, the girls are able, with the ease of long practice, readily to understand the instructions given to them. This removes one of the deaf girl's most serious handicaps.

The laundry is, perhaps, not so attractive to the on-looker as dressmaking, but it is of equal importance. We can all appreciate an elegant gown, but a well-laundered collar and shirt front, or dainty washing frock, are luxuries not to be lightly esteemed. In the laundry, girls are trained from the beginning in neatness, cleanliness, order, and business methods. Their workrooms are arranged on

lines similar to those of a business laundry. Though the main object is to turn out efficient ironers, the training by no means stops there.

Each girl in turn has to be responsible for checking the work as it comes in and goes out. She is taught to mark, to sort, and to pack properly the various things to be sent home. Each girl also takes her turn in keeping the weekly accounts of work done for the various departments of the school. All the girls are taught the names, uses, and cost of all materials used, and here again by conversation, the blackboard, and their own notebooks, the lessons are driven home, so that the pupils are made familiar with the technical words necessary in their work, a great asset when they go out to earn their living in laundries. So much for the methods used.

Now for the effects. Is there anything which makes for happiness so much as definite, useful, and pleasing work done under cheerful and healthful conditions? As a small child, a deaf girl goes into school with no particular interest in life. The gradually-acquired ability to understand the speech of others and to make herself understood, gives a new sense of power. And when she has reached the age to enter the dressmaking room or the laundry, another new interest creeps into her silent world. She is given useful work to do, the immediate results of which she can see. As every specimen worked upon bears the name and age of the worker and is kept to be shown to visitors and friends, each girl begins to take a personal pride in her handiwork. This is a powerful lever to success. Her interest having been aroused (without which no really good work can be done) she is keen to understand the instructions

given her, and consequently her lip-reading and language improve. Her intelligence is developed on all sides, and through the opening windows of her mind, she has glimpses of a successful and wage-earning future. She begins to feel her responsibilities and to realize that *her* work helps to the success and beauty of the whole, and that her school expects that every day each girl will do her duty and so keep up the reputation its work has won.

The cultivation of taste and the inculcating of habits of cleanliness, neatness, and honesty of work in the little details have their effect on refining and strengthening the moral character. The arousing of latent mental faculties, the stirring of ambition, and the pleasure of finding newly-acquired powers of work and of self-dependence, show themselves in increased brightness of face, greater alertness of movement, and improved carriage of the body. Mind, body, and character, all share in the benefits of trade training.

We are taught that money, besides being a medium of exchange, is also a measure of value. As a measure of value it has its limitations (for the best things of life are priceless), but if it is taken as a measure of the value of trade training, it speaks with no uncertain voice. For the majority of our girls can go from us into a workroom or laundry and begin their working lives at the same wage as the hearing girl of similar age. I have also in mind three of our girls, each of whom has started quite a prosperous little business of her own in making dresses and blouses, a venture which promises to be quite successful financially in each case. Then I know of laundry girls, who have been out from two to three

and a half years, and who provide their own board and lodging, dress neatly, get good holidays, and with a reasonable supply of pocket money have to their saving account 6, 12, and 36 War Certificates, and from £7 to £9 in their bank books. Therefore, blessed be the work which has beneficent results on mind, body, and estate.

The demand for trained girls is unfailing and is likely to increase. In pre-war days an employer would take the untrained girl because she was cheap. To-day, an employer has to pay a minimum wage according to the age of the employee quite independent of the quality of the work done. Moreover, he has to spare his workers so as to permit them to attend continuation schools for so many hours per week. Under these circumstances, a business man will naturally employ those who will give him the best and quickest work in the daily working hours, and this will only be obtained from the well-trained girl,

To sum up, after the deaf girl has received her full training, she goes out into the world with intelligence quickened and taste cultivated, with ability to understand quickly the instructions given to her, and to carry them out with the precision which only long practice can give. She is alert and business-like, can work, not only with neat and skilful fingers, but "with the understanding also," able to hold her own with the hearing girl in workroom and laundry as a self-respecting, wage-earning member of the community.

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UNIVERSAL PHYSICAL EDUCATION IN SCHOOLS FOR THE DEAF

The understanding of the need of a thorough physical education as a part of the school system is by now quite general. There are few who would deny it. But the efforts made to meet the need are far below its acknowledgment in theory; especially so in our schools for the deaf. It is a matter of vital importance, and the compulsory application of remedial measures seems now only a question of time.

The basis of soldierly efficiency in military life is *physical* preparedness. The basis of success in any business or profession in our present-day strenuous civil life is, likewise, *physical* preparedness. It is generally recognized that the preparedness leading to success in all walks of life is physical and moral discipline, to inculcate which nothing is better than a thorough physical training course; and the school is, of course, the place that can best supply it.

As evidence of this need of universal physical education, a pamphlet, "Physical Fitness—A National Necessity," which the National Physical Education Service, of Washington, D. C., has published, cites the following facts:

> Thirty-five per cent of the men in the first draft were rejected as physically unfit. Allowing for underweight and special sensory defects, neither of which argues general physical unfitness, not less than 25 per cent were rejected for real physical unfitness. That means 2,500,000 between the ages of twenty-one and thirty were unfit for military service; therefore, unfit to render a full measure of service in any capacity; therefore, unable to get full returns from life in work and happiness. An equal number of women doubtless suffer from disqualifying defects.
>
> There are 25,000,000 boys and girls of school age, six to eighteen years, marching along the great highway of youth.

Numerous investigations show that at least fifty per cent of these have defects and ailments that impede normal development in greater or less degree; that they live, at home and at school, in conditions more or less unhygienic; that they lack the positive physical education—in play, athletics, gymnastics, work—necessary to realize their potential man and woman power.

England, recognizing the deplorable physical condition of her youth, has included in her plans for reorganization of her educational system extensive provision for compulsory physical education.

In France there has been appointed under government direction a National Committee to provide for the development of physical education.

For the purpose of securing legislation on physical education throughout the United States, a national movement was organized to focus on this problem the attention and active interest of the voting public. In February, 1918, a National Committee on Physical Education was formed, composed of representatives from more than fifty national organizations concerned with the conservation of child life and with the consequent production of a vigorous and enduring citizenship.

The Playground and Recreation Association of America, at the request of this National Committee, established a Physical Education Service, to provide a means through which all those interested in this problem can work together to the common end of securing state and federal legislation looking to the promotion of physical education, and to make the nation physically fit.

Since January, 1918, the following states have passed compulsory physical education laws: Maine, New Jersey, Rhode Island, Delaware, Massachu-

setts, Pennsylvania, Illinois, Michigan, Nevada, California, Utah, Oregon, Indiana, Maryland, and Washington. Others will follow sooner or later.

It is encouraging to note that at the direction of ex-Secretary of the Interior Lane, Commissioner of Education Claxton drafted a bill to provide for federal appropriation of $20,000,000 for the support of physical training courses for boys and girls. The purpose of the bill is stated as follows:

> More fully and thoroughly to prepare the boys and girls of the nation for the duties and responsibilities of citizenship through the development of bodily vigor and endurance, muscular strength and skill, bodily and mental poise, and such desirable moral and social qualities as courage, self-control, self-subordination and obedience to authority, coöperation, leadership, and disciplined initiative; through adequate physical examination and the correction of postural and other remedial defects; through promotion of hygienic school and home life; and through scientific sanitation of school buildings, playgrounds, and athletic fields, and the equipment thereof.

As to present-day conditions, the pamphlet "Physical Education in Secondary Schools," prepared by the National Committee on Physical Education appointed by the National Educational Association, hits the nail squarely on the head when it says:

> Theoretically educators believe that health is more important than quantity of knowledge; practically they seldom act upon the belief. The programme of studies has not been adjusted to meet the changed needs of the pupils. The present arrangement for physical activity can be looked upon only as palliative measures in that they give some relief from the school desk. They are essentially of negative character, aiming to minimize harmful influences. The work of the schools calls primarily for the functional activity of the higher centers of the central

nervous system. It fails to emphasize the principal positive hygienic factor in that it disregards the motor activities related to the lower nervous centers controlling circulation, respiration, nutrition, and elimination.

Health is definitely related to the vigorous use of the big muscles of the trunk and legs. Instruction should be given in exercises and games which will bring into play these larger fundamental muscles.

The tendency in some quarters to substitute military drill in the schools for more fundamental activity is a serious mistake.[1] The addition of physical education to military drill for the rank and file of the armies of the world is a significant fact, which should make clear the folly of such substitution. The thorough physical education courses at West Point and Annapolis show recognition by the military authorities of the superior value of physical education.

If the need for physical education is thus so generally recognized in connection with the public-school system, the need is much more evident in our schools for the deaf. Our pupils come to us with physical defects much more frequently than do those in public schools. And our school authorities, as a whole, show more indifference and negligence in the matter of physical education than do those of the public-school system generally. They do not realize the real physical needs of the growing pupils, nor attempt to devise or adopt a system fitted to meet those needs.

From what the writer has seen and experienced in our schools for the deaf, physical training has been nowhere so systematic as mental and industrial training. It holds only a secondary place, entirely

[1] See "Military Drill in Schools for the Deaf," by the author of the present article, *Annals* lxiv, pages 379 to 396.

apart from the curriculum; whereas, it should be regarded as a *fundamental* necessity, calling for an equal share with the other departments of the deaf child's education, as well as being brought into correlation with them.

The needs in the physical training of deaf pupils, to correct their bodily weakness during immaturity and give them the solid foundation of health, would best be met by the following health programme:

1. Medical, mental, nervous, and physical examinations.
2. A healthful environment in school.
3. Instruction in health principles and personal hygiene.
4. Physical activities.
5. School credits.
6. A capable head of the department of physical education.

1. *Examinations.* Medical Examination. Such examination should be made by a medical practitioner. It should be his duty to detect weakness and disease. He should coöperate with the physical instructor in the correction of physical defects and with the regular teacher in the diagnosis and treatment of mental defects.

Mental and Nervous Examinations. The mental examination should seek to ascertain the mental and nervous state of the pupil. An examination of the grades of the pupils in their studies, correlated with their grades in physical education and industrial training will give a very fair index of their nervous and mental health and constitution, and will give data on which to base a comprehensive programme. In arranging this, classroom marks should represent strictly capacity.

With regard to examination of the nervous system it will generally be found that pupils who are fond of physical activities, who excel in them, and are leaders in games and sports, as a rule possess good central nervous systems. The extreme type of these pupils, the natural athletes, may need to be curbed in their sports.

On the other hand, the pupil who has little physical ability and no interest in games and sports usually lacks organic vigor. It is especially in this class that an unstable nervous system may be expected. If education in such a case is confined to a purely intellectual training, it will be at the expense particularly of the organic centers of the nervous system related to circulation, respiration, nutrition, and elimination.

A well-balanced course in physical education and school work for each individual is the ideal, and this is greatly facilitated by modern methods for testing the subnormal and the super-normal types.

Physical Examination. The physical examination should call for a study of the growth and physique of the pupil and a close correlation of the conditions found with the physical activity prescribed. The examination should include such vital elements as eyesight, growth in height and weight, bodily strength, lung capacity, and cardiac efficiency. All these factors should be correlated with the adolescent growth of the pupils and their standard of scholarship. Periods of rapid growth in height and weight precede development in strength and endurance. Vigorous big-muscle exercise should be the rule during this period.

Let it be repeated and emphasized that medical, mental, and physical examinations should be cor-

related with one another and with the general programme of the pupil. Heretofore the examinations have been conducted partly by the medical inspectors, partly by trained psychologists, and partly by the director of physical education, without correlation among them. In spite of this, splendid work has been done. Much better work can be expected with more thorough coöperation and correlation.

2. *Healthful Environment in the School.* The environment in our schools should include an adequate, well-balanced diet that will promote healthy growth, together with well-ventilated and well-lighted sleeping and living rooms. It should include a schoolroom properly ventilated, with temperature never above 70 degrees F., provided a normal relative humidity of approximately 50 per cent and adequate air movement are maintained. The schoolroom should be supplied with proper natural and artificial lighting systems, and the walls should be so colored as to reduce eyestrain. The desks should be arranged to avoid the causing of poor postures and deformities. The school and industrial schedule should be arranged as far as possible to increase body movements and efficiency, and decrease nervous srain.

3. *Instruction in Health Problems.* The pupils should be given instruction in the important elementary matters which concern their health; as, for example, diet, care of the teeth, sex matters, rest, exercise, and bathing.

4. *Physical Activities.* Equipment. The equipment for physical activities in the school should include a thoroughly equipped gymnasium with showers, dressing rooms, and (if kept in a thor-

oughly hygienic condition) swimming pools. The gymnasium should be a building by itself, if possible. Sixty by eighty feet in size would be adequate, thus providing a large enough floor for a class of from 50 to 75 at a time.

For showers, the following arrangement is recommended, based on a fifteen-minute period for bathing, and 50 pupils to a class:

(a) For boys, an open room shuld be used, for moral and hygienic reasons. Single showers with individual control will supply five boys each. If multiple showers with central control are provided, one shower will supply seven pupils. Multiple showers with central control are recommended, as they save time, water, and space. The shower and drying rooms should contain at least 20 square feet of floor space per shower. This gives adequate room for drying in the shower room. The shower should be without enclosure.

(b) For girls, closed shower booths (3 feet 3 inches by 3 feet) should be used. With individual control, one shower should be provided for every three girls; with multiple control, one for each five girls. Multiple control is recommended, when an attendant can regulate all the showers.

In the dressing rooms each pupil should have a gymnasium locker for storing street clothes during the exercise periods, and for the gymnasium suit the rest of the time. They should be at least 12 by 12 by 36 inches, two tiers in height. The space per individual for lockers, aisles, and approaches should be 8 square feet.

In addition, girls should be supplied with 100 dressing booths, 2 feet 10 inches by 4 feet. This gives booths for two classes of 50 girls each, one

coming to the gymnasium and the other leaving it.

The swimming-pool room should measure 50 by 84 feet with gallery, 42 by 84 feet without gallery; size of pool, 24 by 60 feet; depth of pool, 3 feet 6 inches to 8 feet.

The outdoor physical exercises and athletics should be conducted on well-arranged and well-equipped playgrounds and athletic fields, which should be kept soft. Their size should be at least 7 acres.

Amount of Time. Five exercise periods per week, of ninety minutes each, should be given, divided as follows:

1. Instruction in hygiene.....10 minutes
2. Passing to locker room and undressing .....15 minutes
3. Exercises and games.....50 minutes
4. Shower and dressing.....15 minutes

Total .....90 minutes

These exercise periods should be supplemented by voluntary play and athletics for one hour every day.

The army camps are teaching the American public the truth stated at a Pittsburgh convention two years ago by Dr. Stecher, of Philadelphia, when he said that our children and youth need two hours of physical training and athletics every day. This is especially true in the case of our schools for the deaf, because, as said before, many of our pupils come to school with bodies in a more or less defective condition from various causes, requiring an extra amount of general and special athletics to correct them.

The best time to give physical training and athletics is from 3 to 5 o'clock in the afternoon. Some of the schools for the deaf give physical training or military drill in the morning, a time of day which seems unsuitable, because the pupils are then usually refreshed physically and mentally and ready for the morning's work in school. If they come to the schoolroom somewhat fatigued by a hard and prolonged drill, they are, of course, not in the best condition for school work. This is not based on theory, but on practical experience.

Kinds of Exercise. The kinds of exercise should be, first, those which call into play vigorously the large fundamental groups of big muscles; such exercises are related to the development of vigor, endurance, and power. This instruction should be supplemented by exercises bringing into play and development the accessory muscles: exercises of skill, grace, and alertness, requiring the action of the whole body, as boxing, fencing, dancing, and group games. Such a system of exercises, by giving the pupils a well-developed healthy body, fully under control, would be of the greatest value in mastering a trade, in producing efficiency as a workman. Special attention should be given to securing good postural habits while standing, sitting, and exercising. This training should give a virile, vigorous body, alert and well-poised. For these reasons, instruction should be given all pupils in gymnastics, athletics, swimming, and team games.

By proper control and administration of the team games and athletic contests the undesirable features and excesses can and should be eliminated. Thus it would not be necessary to discard games which have great health, social, and moral values when

played and conducted in the right way. Preferably, the coaching should be done by the director of physical education.

5. *School Credits.* The physical practice in personal hygiene, gymnastics, athletics, and games should all receive due credit in the marks, on the basis of the work and effort of the pupil. Tests of physical efficiency should be given at regular intervals.

It will be an incentive to the growing and developing boy to observe his development and physical condition as shown by physical measurements and records. This will encourage him to do his best to improve in health, physical efficiency, and moral character.

Athletics and physical training properly given should stimulate and lead every boy to keep up his bodily activity and attain physical efficiency. He will form what we may call the athletic habit, by which we mean an intense love of physical activity in a variety of forms, as well as a settled habit of practicing such activity throughout his life. The most important thing is the love of activity.

The above-mentioned plan of work necessarily leaves much to the judgment of the physical director. Conditions and circumstances differ greatly among schools for the deaf and between them and the standard public schools, and the physical needs of our pupils often require special study and treatment.

6. *The Department of Physical Education.* All forms of play, athletics, medical examinations, and the like in our schools for the deaf should be under a well-organized department of physical education with a thoroughly competent physical director. The

director should not only be well-versed in theory, but should have thorough personal experience in all branches of athletics, should be of good character, preferably a total abstainer, and should have good health. He is in the same class with the teacher, the lawyer, or the engineer, and is entitled to a remuneration in keeping with the standing of his profession and his technical training. Not many men are willing to sacrifice the years necessary for such training when they know the returns are small.

About four hours of a physical director's time daily should be taken up in instruction of classes in hygiene, physical training practice, and supervision of the bathing and athletics. The remainder of the day is needed for administration and keeping-up of equipment, records, and attending to "office" business generally.

According to the statement of Dr. J. H. McCurdy, an expert on physical training, there was a demand on a pre-war basis for 43,737 instructors in physical education, with only 5,000 available. Also, according to the same authority, 1,000 men and 1,500 women each year represent the recognized present unfilled need. "The new state physical education laws are an actual menace," added Dr. McCurdy, "unless trained teachers are supplied to meet the broad health reconstruction needs; untrained teachers may do real injury to the growing youth."

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LIP-READING COMMANDS

The list of commands given below was compiled in the San Francisco Oral Day-School. The sentences express simple actions given as commands from the lips. Many of these commands are, of course, used in other schools; some were suggested by the Sweet Readers, by action work, and by other sources. The ability to understand all these commands, then to convert them into spoken or written expressions, changing the tense, gives a child a wide and practical vocabulary. A list like this may be used for four years at least with an oral class.

Run.
Jump.
Hop.
Bow
Fall.
Skip.
Walk.
Come.
Go.
Cough.
Laugh.
Creep.
Cry.
Fly.
Dance.
March.
Sleep.
Stand up.
Sit down.

Clap your hands.
Turn around.
Wave your arms.
Wave the flag.
Wave your hands.
Wave your handkerchief.
Wave your cap.
Open the door.
Open your mouth.
Open a book.
Open your purse.
Open your umbrella.
Open a box.
Open a book and put a pencil into it.

Shut the door.
Shut the window.
Shut your mouth.
Shut your eyes.
Shut the box.
Shut the book.
Shut one eye.
Shut both eyes.
Shut the umbrella.

Fold your hands.
Fold your arms.

Fold a paper.
Fold your handkerchief.
Fold some cloth.
Fold the towel.
Fold a napkin.
Fold the sheet.
Fold the clothes.
Fold the tablecloth.

Fan me.
Fan yourself.
Fan the doll.
Fan ——.

Push ——.
Push me.

Shake ——.
Shake me.
Shake your coat.
Shake the bottle.
Shake the cloth.
Shake your head.
Shake your foot.
Shake hands with me.
Shake hands with ——.
Shake —— and put —— behind the door.
Wash your face.
Wash your hands.
Wash the slate.
Wash a cup.
Wash the windows.
Wash the dishes.
Wash the clothes.
Wash the knives and forks.

Brush the slate.
Brush your hair.
Brush your teeth.
Brush your coat.
Brush your hat.
Brush your shoes.
Brush ——'s coat.
Brush ——'s coat and put it on the table.
Brush ——'s hat and hang it in the coat room.

Sweep the floor.
Sweep the coat room.
Sweep the stairs.
Sweep under the table.
Sweep under the bed.
Sweep the corners.

Roll a ball.
Roll a pencil.
Roll a marble.
Roll a crayon.
Roll an apple.

Throw a ball.
Throw a pencil.
Throw a cap.
Throw a marble.
Throw a book.
Throw a kiss.

Sit on my lap.
Sit on the table.
Sit on the floor.
Sit on the desk.
Sit on ——'s lap.
Sit on the stairs.
Sit on ——'s seat.

Ring the bell.

Tear some paper.

Tear some cloth.

Cut some paper.
Cut some cloth.
Cut some string.
Cut some bread.

Sit near ——.
Sit next to ——.
Sit beside ——.
Sit in front of ——.
Sit behind ——.
Sit on the floor and read a book.
Sit on the floor and read a paper.

Blow the horn.
Blow your nose.

Drink some water.
Drink some tea.
Drink some milk.

Stand behind your chair.
Stand on your chair.
Stand on the table.
Stand behind me.
Stand behind ——.
Stand in front of your chair.
Stand behind the door.
Stand near ——.
Stand beside ——.
Stand next to ——.
Stand on one foot.

Go to your desk.
Go to the door.
Go to the window.
Go to the coat room.
Go into the hall.
Go to ——'s room.
Go to the slate.
Go out of doors.
Go to the office.
Go to Miss ——.
Go down stairs.
Go out of the room.
Go out of doors.

Write your name.
Write my name.
Write ——'s name.
Write with the red crayon.
Write with the blue (black, etc.) crayon.
Write your mother's name.
Write your father's name.
Write your sister's name.
Write your brother's name.
Write the names of the months.
Write the names of the days of the week.
Write with ——'s pencil.

Look around.
Look at the flag.
Look at the book.
Look under the table.
Look at the clock.
Look for my gloves.
Look for my pencil.
Look in the box.
Look in the cabinet.
Look in the hall.
Look in the coat room.
Look in your desk.
Look in your pocket.
Look over your shoulder.

Get a book.
Get a pencil.
Get a paper.
Get some water.
Get the mirror.
Get some crayon.
Get a chair.
Get the pointer.
Get a ball.
Get your cap.

Give me a pencil.
Give me a book.
Give me some crayon.
Give me your paper.
Give me one, two, three pencils.
Give me four (ten, etc.) crayons.
Give me the red (blue, etc.) ball.
Give me the green (yellow, etc.) crayons.

Bring me a book.
Bring me a ball.
Bring me your paper.
Bring me some crayon.
Bring me an eraser.
Bring me a knife.
Bring me the doll.

Carry the book.
Carry a pail.
Carry a chair.
Carry a broom.
Carry a rake.
Carry the table.
Carry the doll.

Kick ——.
Kick the door.
Kick the chair.
Kick the table.
Kick the ball.
Kick the wall.
Kick me.

Whip ——.
Whip the doll.

Kiss me.
Kiss the doll.
Kiss ——.

Drive me.
Drive ——.

Break some crayon.
Break a pencil.
Break a crayon in two.

Break a crayon in half.

Pinch ——.
Pinch me.

Bounce a ball.

Tickle me.
Tickle ——.

Take some paper.
Take some candy.
Take an apple.
Take some cake.
Take a pencil.
Take a crayon.
Take a book.
Take your ruler.

Take the picture.
Take your pencil.
Take your book.
Take a crayon out of the box.
Take your papers out of your desk.
Take a pencil out of the drawer.
Take a book out of the cabinet.
Take the plant off the window-sill.
Take hold of hands.
Take hold of hands and stand in a circle.
Take the paper (book, pencil, etc.) to ——.
Take —— —— off the table, the desk, the chair.
Take off your coat, hat, gloves, rubbers, etc.

Strike ——.
Strike me.
Strike the doll.
Strike the slate.
Strike the table.

Walk to the door.
Walk down stairs.
Walk up stairs.
Walk to the window.
Walk to your desk.
Walk slowly.
Walk fast.
Walk softly.
Walk with ——.
Walk on tip-toes.
Walk on your heels.
Walk across the room.
Walk across the hall.
Walk back and forth.
Walk up and down the hall.

Run to the door.
Run to the slate.
Run fast.
Run slowly.
Run with ——.
Run down stairs.
Run across the room.
Run across the hall.
Run out of doors.
Run around the table.
Run around the chair, etc.
Run up and down the hall.

Show me a picture.
Show me a flower.
Show me your thumbs.
Show me your mouth, nose, etc.
Show me something red, blue, green, etc.
Show me your left arm, foot, eye, etc.
Show me your right foot, eye, arm, ear, etc.

Point to the door.
Piont to the basket.
Point to the window.
Point to the slate.
Point to the clock.
Point to the cabinet.

Count the boys.
Count the chairs.
Count the girls.
Count the pictures.

Count to ten.
Count by twos to twelve.
Count by fives to twenty.

Drop your handkerchief.
Drop a ball.
Drop a book.
Drop a marble.
Drop the blue ball.
Drop the white marble.
Drop the red pencil.
Drop the green crayon.
Drop two pencils.
Drop three crayons.

Sharpen your pencil.

Nod your head.

Chase ——.

Talk to ——.

Set the table.

Crack a nut.

Peel a banana.

Bite into an apple.

Pick a leaf, a flower, etc.

Bend your arm.
Bend your knee.
Bend ——.

Spin the top.
Spin the plate.
Spin ——.
Spin two tops.

Swing your arms.

Smell a flower.

Empty the basket.
Empty the glass.
Empty the vase.

Water the plants.
Water the garden.

Knock at the door.

Collect the papers.
Collect the books.
Collect the pencils.

Lower the shades.
Lower the window.

Make the doll's bed.

Yawn.
Stretch.
Sneeze.
Thread a needle.
Braid ——'s hair.
Crawl under the desk.
Crawl under the table.
Dress the doll.
Undress the doll.

Lock the door.
Lock the cabinet.
Lock the drawer.

Dust the chairs.
Dust the table.

Dust the desk.
Dust ——.

Chew some gum.
Chew your pencil.
Chew ——.

Slam the door.
Slam the book on the table.

Sprinkle the flowers.
Sprinkle the clothes.

Box ——'s ears.
Box the doll's ears.

Fill the cup with water.
Fill the vase.
Fill the glass.
Fill the pail.
Fill the tea kettle.
Fill the tub.

Roll —— across the room.
Roll —— to ——.
Roll up your sleeves.

Raise the window.
Raise the shade.
Raise your arm.
Raise your foot.
Raise both hands.
Raise your left arm.
Raise your foot.

Jump the rope.
Jump over a chair.
Jump over a box.

Whisper to me.
Whisper to ——.

Play tag.
Play ball.
Play marbles.

Wink your eyes.
Wink one eye.
Wink your right eye.

Hand me the rake.
Hand me the pitcher.
Hand me the box.
Hand me the broom.
Hand me the pail.

Put on your hat, coat, gloves, rubbers.
Put on the sweater.
Put —— on the table.
Put —— on the chair.
Put —— on the desk.
Put —— on the window-sill.
Put —— on the shelf.
Put the crayons into the box.
Put the paper under the book.
Put your papers into your desks.
Put your paper and pencil away.
Put your handkerchief away.
Put your handkerchief into your pocket.
Put the pointer, mirror, etc., in its place.
Put your hands behind you.
Put your paper behind you.

Put the broom behind the door.
Put the pail under the table.
Put your hands on your head.
Put your hands on your shoulders.
Put your hands into your pockets.
Put your hands on your hips.
Put your pencil over your ear.
Put your hands behind you.
Put your book under your arm.
Put the paper on the shelf.
Put the box on the shelf.
Put a box on ——'s head.
Put —— between ——.
Put your hands over your eyes.

Stand near the window.
Stand near the desk.
Stand near me.
Stand near your desk and read a paper.

Skip around the room.
Skip around me.
Skip around the basket.
Skip across the room.
Skip around the table.
Skip around the chair.
Skip around the yard.
Skip around the hall.

Hang up the pointer.
Hang up your coat.
Hang up your hat.
Hang your hat on the door-knob.
Hang your head.

Draw two flags.
Draw three boxes.
Draw five caps, three hats, etc.
Draw —— fans, balls, leaves.

Hold the doll on your lap.
Hold a pencil in your mouth.
Hold the doll in your arms.
Hold a book under your arm.

Turn the door-knob.

Hit the ball with a broom.
Hit the floor with a pencil.
Hit the table with a pointer.
Hit —— with the ball.

Tip-toe out of the room.
Tip-toe across the room.
Tip-toe across the hall.
Tip-toe down stairs.
Tip-toe up stairs.

Turn a somersault.
Turn a chair around.
Turn Joe around.
Turn your coat inside out.
Turn your pocket inside out.
Turn the box upside down.
Turn your gloves inside out.
Turn the chair upside down.

Turn the cup upside down.
Turn the basket upside down.

Button your coat.
Button your shoe.

Unbutton your coat, shoe, etc.
Unbutton ——'s shoe.
Tie your shoe.
Tie your ribbon.

Untie ——'s ribbon, shoe.
Tie a handkerchief around ——'s arm.
Tie a string around your finger.
Tie a string on a chair.
Tie a ribbon around ——'s waist.
Tie a thread on ——'s chair.

Throw a kiss.
Throw back your head and laugh.
Throw ——'s cap behind the door.
Throw —— into the basket.
Throw —— at the slate.
Throw a ball over the doll house.
Throw a ball at ——.
Throw a pencil across the room.
Throw —— out of the window.

Cut a paper in two.
Cut a paper in half.
Cut a paper with a knife.
Cut an apple into six pieces, into four pieces, etc.
Cut the bread.
Cut the thread, the cloth.

Kneel on the floor.
Kneel on a chair.
Kneel on the floor and look under the table.
Kneel on the chair and look out of the window.
Push aside the papers.
Push aside the chairs.
Push aside the basket.
Push —— aside.

Stamp your foot.
Stamp your foot and shake your finger.
Stamp your foot and shake your head.

Tip over the chair.
Tip over the basket.
Tip over the glass.

Lift ——.
Lift a chair.
Lift the basket.
Lift the table.

Wind your watch.
Wind the clock.
Wind the string on a spool.
Wind some string around ——'s arm.
Wind a cloth around ——'s finger.

Carry a book under your arm.
Carry a coat on your arm.
Carry a gun on your shoulder.
Carry a rake on your shoulder.
Carry a book on your head.
Carry a chair on your back.
—— and ——, carry the pail between you.
Carry a book in your hand.
Carry a pencil in your mouth.

Lean the pointer against the table.
Lean the rake against the wall.
Lean the gun against the desk.

Pour some water into a glass.
Pour some water on the floor.

Fill the tub with water.
Fill the glass with water.

Pack the trunk.

Unpack the trunk.

ALMA L. CHAPIN,
Principal of the Oral Day-School,
San Francisco, California.

SCHOOL ITEMS

Arizona School.—A year's leave of absence for special study was granted Miss Eleanor C. Jones; Miss Florence B. Spruit, of the San Francisco Day-School, is substituting in her place. Miss Willie B. Curtis also resigned just before school closed, and is succeeded by Miss Dorothy Dodge, of the Nebraska School.

It was hoped that the new plant would be completed in time to permit the school to move into it this fall, but because of one delay after another, the buildings will not be ready for occupancy before the opening next fall. Much of the delay has been due to getting a clear title to the land on which the school is to be erected.

Central New York Institution.—The following members of the staff tendered their resignations last spring: Miss Alice L. Crampton, to teach in the Iowa School; Miss Mildred Crampton, to teach in the Lexington Avenue School; and Miss Nellie A. O'Connor, to become a member of the teaching staff of the school at Mt. Airy. The vacancies thus created were filled by the appointment of Miss Hilda M. Frear, of the staff of the Indiana School; Miss Ellen E. Gifford, formerly connected with the Rome School and a recent graduate of the Normal Training Class of the Institution for Improved Instruction of the Deaf, New York; and Miss Hazel Struppler, of this year's Normal Training Class of the Pennsylvania State Oral School.

Colorado School.—The contract for the new gymnasium has been let, and work has begun with the prospect of completion by the next school session. The total cost will amount to about $110,000.

New teachers this fall are: Miss Alice M. Alcorn, from the Oregon School; Miss Marjorie Thornton, from the Lexington Avenue School, New York City; and Miss Faith Summerbell, from the Sargent School of Physical Culture at Boston. Miss Miriam Minister has left to take up a course in nursing. Mr. J. C. Winemiller, who has been with the school for a number of years, gave up his position to go into another kind of work in Dayton, Ohio.

Florida School.—The first unit in the new cottage-system plan for the school has been erected, but because of insufficient funds it was found necessary to leave the inside trim of this building unfinished. It is planned to ask the next legislature for appropriations to complete this cottage, and also to erect the second unit. When completed, these cottages will cost about $75,000 each.

New members of the teaching staff are: Miss Edna E. Wordell, from the Virginia School, Miss Hattie Harrell, from the Alabama School, Miss Isabella Boyd, from the South Carolina School, Miss Leola A. Matthews, from the

Schenectady Oral School, Miss Joe Harned, Miss Mary Gilmartin, and Miss Julia Stafford.

Maryland School.—The school opened this year with an enrollment of about 150 pupils, the largest number in the history of the institution. The various changes made during the summer months in the interior of the main building now permit the locating of all the classrooms on the first floor, a convenience that will be of great benefit to the school routine. The manual training class will have a separate room to itself in the basement, and the room formerly used by the manual training class and art classes is now given over entirely to the use of the Art Department. Additional bedrooms have been obtained by partitioning off a large room on the third floor formerly used as a class and study room.

Michigan School.—The enrollment of new pupils is the largest in several years. The printing office, with Mr. James M. Stewart in charge, has been reopened, but the *Michigan Mirror* will not be published again for some time.

The following teachers resigned at the close of the last session: Miss Fern Hall, Miss Dorothy Yates, Miss Lucia MacDonald, Miss Rachel Hill, Miss Bertha Holgate, Mrs. Mary R. Perry, and Mrs. Mary E. Berger. New teachers are Miss Rose Dietrich, Miss Margaret Ryan, Miss Annabell Reed, and Miss Mary B. Roberts. Miss Margaret Roberts, who was Supervisor of oral work, has resigned to teach at the Central Institute, St. Louis. Miss Frances K. Bell, of Fulton, Missouri, has returned as principal of the school. The Normal Class this year consists of four young ladies: Miss Mary Killeen, Miss Evelyn Heideman, Miss Eleanor Cumings, and Miss Corinne Roberts.

Minnesota School.—Miss Ruth Gable, a most efficient teacher for a number of years, tendered her resignation at the close of the last school year. Miss Cora M. Witcher

and Miss Ella V. Carbert have joined the teaching staff, the latter in the domestic science department.

New Jersey School.—Mr. George B. Lloyd has left to become superintendent of the Washington State School. Miss Amy Hales resigned to teach a deaf-blind pupil at the Mt. Airy School. Miss Hudgin and Miss Irma N. Nuss also resigned to join the staff of the West Virginia School. Miss Margaret Cochrane, teacher of domestic science, left to accept the position of head of the domestic science department of the New Jersey State Normal School. The following additions to the corps of instructors have been made: Supervisor of the primary grades, Miss Sophia K. Alcorn, who accomplished such wonderful work with her deaf-blind pupil, Oma Simpson, at the Kentucky School; Mr. Howard Edgar Thompson, formerly head teacher at the Montana School; Mrs. Hanna W. Transue, in the past supervisor of a public elementary school at Aurora, Nebraska; and Miss Alice McGilliard, a graduate of the New Jersey State Normal School, teacher of domestic science.

North Dakota School.—Mr. Frank Read, jr., Superintendent of this school from 1915 to 1920, died on the fourth of July after a short illness. Mrs. Read has gone to her home in Olathe, Kansas, to take a complete rest. William C. McClure, of the Missouri School, was appointed Superintendent the latter part of August, and entered upon his duties the first of September. According to law and custom, Mrs. McClure becomes Matron.

Miss Josephine Washington, Miss Elizabeth Dodge, and Miss Bertha Thomas resigned to accept positions elsewhere. Mrs. P. L. Maulet, née Aldah Buchanan, for several years a teacher in the school prior to her marriage, is back again as Head Teacher of the Oral Department. Other new teachers are Miss Emeline Grow, from the Tennessee School; Mrs. James Sartor, of Fulton, Missouri; and Miss Inez Serumgard, of Devils Lake, North Dakota. Miss Edna Hartman, a graduate of the school, will teach sewing, and

Miss Inez Thomas, of the Missouri School, will teach domestic science.

Rhode Island Institute.—Miss Mary H. Parr resigned in June to be married. Miss Marguerite Cummingham was appointed in her place as teacher of drawing and handicraft. Miss Helen Bailey resigned to pursue Bible study with the view of entering another field of work. Miss Gertrude N. Kling also resigned to teach in the Virginia School. To fill these vacancies, Miss Betsy A. Finn, from the North Carolina School, and Miss Julia W. Savage, from the Florida School, were appointed. Mrs. Lucille Wrenn Couse, from the Northampton Training Class, was appointed in place of Mrs. Julia W. McNairy. Miss Carol Brown, of Hamilton, Ohio, is substituting for Miss Mildred Miller, who is absent on account of illness.

A great deal of painting was done during the summer in the old main building, now used exclusively as a dormitory for the pupils, and a new cement floor was laid in the laundry. An electric motor with attachments for bread mixing, cake mixing, ice cream freezing, coffee grinding, etc., was installed in the kitchen; also a steam chest and steam kettle for cooking vegetables, soups, etc.

The enrollment is larger than ever before in the school history, 115 pupils now being cared for. The classes average ten pupils to a teacher, and are very well graded. Miss Shillady has been relieved of the grade work and now gives all of her time to the vibration and rhythm work. A room on the first floor has been fitted up with a small piano, a bass drum, Montessori bells, guitar, and other suitable equipment for the use of the small children, who have a period of this work every day. The older classes on the second and third floors have one period a week with the large piano in the old room on the second floor.

Sanatorium School.—Miss Agnes Bergen, teacher of grammar, has been granted six weeks' leave of absence to

play in the international hockey games abroad. Mr. Curbert Steffey, a former pupil of the school, is substituting.

During the summer an adjoining piece of property was purchased, and there are now in service twenty-five rooms.

Virginia School.—The Convention of the Virginia Association of the Deaf, to which the school stood host, August 26-29, and which was attended by a greater number of members than were present at any previous meeting of that organization, expressed itself strongly in favor of separate schools for the deaf and the blind. A special committee was appointed to coöperate with a similar committee from the Virginia Association of Workers for the Blind and with other interested bodies in the state to bring this about.

The heating, lighting, and ventilating systems of the dormitories have been improved, and a modern toilet equipment installed. A Model 8 linotype machine has been purchased for the print shop. New classes in poultry raising were started this session, for which purpose a large poultry house was erected during the summer.

New teachers in the oral department are Miss Lettie W. McKinney, from the Nebraska School, Miss Gertrude M. Kling, from the Rhode Island Institute, Miss Virginia Mayo, and Miss Lois B. Jones. In the industrial department, Miss Rachel Rogers and Miss Anna P. Lewis have been added to the staff.

Wisconsin School.—This spring the school came into formal possession of sixty acres of fine land for a farm adjacent to the institution, for which a special legislative appropriation had been made. The boys under their shop instructors built a mile of fencing partly enclosing it, a garden was started and crops of potatoes, field corn, popcorn, and sugar beets planted. Forty tons of hay were harvested. Many young apple trees, to replace those that were dying in the old orchard on the place, and three hundred berry bushes were set out. With a fine herd of

Holstein-Frescian cows, a drove of seventy hogs, and some hundred and fifty chickens, the prospects for farming at this school look very bright.

The dormitory for older boys, which has served its purpose for forty years, is being remodelled on the plan of two boys to each room, making in all about forty rooms, including a suite for the boys' supervisor. On each of the two floors is provided a large hall where the boys may gather for meetings. The furnishings are up-to-date, and the interior is finished in white enamel and imitation walnut.

At the close of school last June, the school lost the services of four teachers: Mrs. Dora Lowe, Miss Matie E. Winston, Miss Adelaide Flack, and Miss Evelyn Elger. To fill these vacancies, the following teachers were added to the school staff: Miss Edith Matteson and Miss Marcene Oaks, from the South Dakota School; and Miss Ferold Parry, who completed the course at the Milwaukee Normal School for the Training of Teachers of the Deaf. In addition to her regular classroom work, Miss Parry will also have charge of the girls in calisthenics. Miss Grace Blanchard and Miss Florence Sundstrum, of Delavan, Wisconsin, and Miss Olene Karges, of Burlington, Wisconsin, are taking training under the direction of Miss Elsie M. Steinke, a teacher of many years of experience.

Mr. Duncan A. Cameron, a graduate of this school, of Gallaudet College, and of the Agricultural Department of the University of Wisconsin, and for four and a half years instructor of dairying in the South Dakota School, succeeds Mr. Kenneth Steinke as boys' supervisor. Besides filling this position, Mr. Cameron teaches a class of older boys in agriculture for one hour every school day.

Wright Oral School.—The school opened on October 5, filled to capacity, pupils being registered from eighteen different states and one foreign country. Mr. Wright was on hand at the opening, after his trip to Japan, where he

assisted in the founding of the first oral school for the deaf ever established in that Empire.

Miss Matie E. Winston, from the Wisconsin School, and formerly principal of the day-school at Platteville, Wisconsin, has been added to the staff. Miss E. O. Jones, for many years a teacher in this school, has returned after a year's absence. Miss Mary Browning Kellar, a graduate of the Northampton normal course, and formerly of the West Virginia School, and Miss Grace Mills, also trained at the Northampton School, and who has been engaged in private teaching, are new members of the staff.

MISCELLANEOUS

A School for the Deaf in Distress.—The *Echo de Famille* for July-August, 1920, tells of an almost disastrous experience undergone by the Institution for Deaf-Mutes at Poitiers, France. Toward three o'clock on the morning of July 18, the city of Poitiers was struck by a terrific storm during which the buildings of the institution for the deaf suffered heavily. Fortunately, no one connected with the school met with bodily injury, but the destruction to the property of the institution was very great, the damage done exceeding 25,000 francs. All the windows were shattered, the roofing staved in, trees felled, and gardens and vines ruined.

During the war the Poitiers institution gave valiant service to the nation. Of the teaching corps, all the members of fighting age found their way into the ranks, while the school itself was turned over for use by the government as a hospital for wounded soldiers. As the school has always been content with a very modest budget, damage to the extent of 25,000 francs seems almost an irreparable handicap, especially in these days when restrictive economy is so essential.

Education of Deaf-Mutes in Alsace.—The *Echo de Famille* for July-August, 1920, gives an interesting account of the history of the education of deaf-mutes in Alsace. In 1826, M. Auguste Jacoutot founded at Colmar a school for deaf boys. Quickened by the zeal of this pioneer teacher, the school soon rose from an unpretentious beginning to a very flourishing condition. In order to accommodate the deaf children from the Upper Rhine and Lower Rhine districts, the school had to be moved to larger quarters, eventually being transferred to Strassburg. M. Jacoutot was ably assisted in his work by his eleven children, one of whom, Charles, an ordained priest, took up the task of directing the affairs of the school as his successor, in 1867. From the beginning, the sign-language method was employed in the classrooms; but soon after Alsace was lost to France, the German government compelled the director to adopt the oral method. Beginning with 16 pupils when it was founded in 1826, the school expanded until, in its balmiest days at Strassburg, it cared for 100 children. In all, from 700 to 800 pupils were trained in the Jacoutot School.

With the establishment of two other schools, the Imperial Institute at Metz in 1875, and one at Guebwiller by the Sisters of Ribeauvillé (transferred to Issenheim in 1893), the number of pupils under Jacoutot rapidly dwindled. This, and divers other unfavorable circumstances, forced the aged Mgr. Jacoutot, in 1901, to relinquish the work to which he, his father, and all his family had devoted their lives.

The care of the deaf children who were left was then taken over by the Congregation of the Sisters of the Cross in their convent at Neudorf, near Strassburg. Here the new school, thanks to the energetic efforts of the sister superior and her staff of teachers, as well as to a more cordial encouragement by the government authorities, was soon put on its feet once more. It was not long before the building especially constructed for its use. The maximum institution was again transplanted, this time to a spacious

number of pupils reached between 1901 and 1920 was 68, and the total number taught during the same period was about 200. By a decision of the Strassburg board of public education, dated June 9, 1920, the fusion of the institution at Issenheim with the one under the management of the Sisters of the Cross at Strassburg was agreed to. From the first of October, 1920, the latter will receive all the Catholic pupils from the Upper Rhine and Lower Rhine districts.

An Institute for Protestant Deaf-Mutes, established at Neudorf-Musau (Bruckhof) in 1890, was the final outcome of a series of sporadic efforts, beginning as far back as 1825, to provide for the education of non-Catholic children. This school is maintained by a society organized especially for such a purpose.

Early Education of Deaf Children.—In another part of this issue is set forth a very forceful plea in behalf of the early education of deaf children. All too often are we confronted by news items specifying instances of the baneful effect upon individual and community of neglect of education. It is possible that mental retardation is the outcome of the additional misfortune of time lost in the "hanging around" period before the deaf child finally begins his school life. This alone should stir teachers of the deaf. Efforts seeking to remove such a handicap transcend all questions concerned with methods of teaching, and cannot be endorsed too vigorously.

The *Deaf Carolinian,* for October 16, 1920, also calls attention to the injustice of a belated start in life for the deaf child.

> It is a sad spectacle to witness the embarrassment of a big, overgrown, physically well-developed boy as he enters the classroom daily with a crowd of little tots seeking to acquire the first simple rudiments of an education. He is paying a tremendous price for some one's almost criminal negligence—and yet it is not always negligence, for we have seen parents hesitating to separate themselves from their deaf children out of a wrong conception of love for them

in their affliction. Is there not an element of selfishness in this kind of love? Rather than to make the sacrifice of separation for a few years they are willing to let their child grow up in ignorance and become a burden on themselves and often times the country, not to mention the unhappiness and suffering on the part of the child.

The Universal Silent Exchange Magazine.—There is in contemplation the issue of a new periodical for the deaf, under the title of *The Universal Silent Exchange Magazine*, official organ of the Universal Silent Exchange and Correspondence Club, according to its prospective founder and editor, M. Emile Pouvreau. It is to be published at Prahec, Deux Sevres, France, in both French and English.

Convention of the National Association of the Deaf.—All reports of the Thirteenth Triennial Convention of the National Association of the Deaf, held in Detroit, Michigan, August 9 to 14, 1920, indicate that it was the most enthusiastic meeting ever held by that organization; in point of numbers it was larger and more representative than any previous convention. The roll call presented the familiar array of names of the same leading deaf men and women who have been so active in recent years in making the Association a virile force for the betterment of the deaf throughout the land. The topics discussed were timely and embraced a wide sphere of interest. In the keynote address, Dr. James H. Cloud, of Missouri, President of the Association, passed from tender mention of those benefactors of the deaf before whose names the silent "asterisk of death" has been placed during the three years that have elapsed since the Hartford Convention, to a fiery arraignment of the "medical faddist," "otologistic wiseacre," and other extremists who for personal ends exploit the deaf. The resolutions adopted by the convention are of more than passing interest. In very emphatic tone, they declare that the National Association of the Deaf stands foursquare in favor of the combined system of teaching the deaf.

Is it Worse to be Blind than Deaf?—Which is the more lamentable affliction, blindness or deafness? Answer is made by Stanley Robinson, of Wappingers Falls, New York, who is both blind and deaf, to this effect:

From my own personal experience I consider it far more dreadful to be blind than deaf. I feel it is a thousand times better and easier to be deaf than blind. In the latter case, it is like living in perpetual darkness, rendering one in almost every way helpless. It deprives one almost wholly of all social pleasures. In a good many ways, too numerous to mention here, it hinders one from pursuing the kind of occupation one would really like to follow instead of having to follow some kind of trade for which there is no taste or liking. It stands as a great hindrance to making an honest living with one's own hands and brains. Even where a great many blinded people are doing well in certain occupations, still they must be assisted in one way or another by the seeing.

The enjoyments of the blind are very few. The great disadvantage blindness brings to an individual is the loss of independence. It means, in a very great measure, helplessness, unhappiness, loneliness. The fact that there is no way for the hearing blind to read the emotions on the faces of people is most deplorable. It is most distressing for a blind man not to be able, by either voice or action on the part of persons he has to deal with, to know whether or not such individuals are giving him a cold or a cheerful look. The abilities of the blind are so limited that it goes without saying that if we were all suddenly stricken blind human progress would immediately cease.

The deaf have their own Sunday Schools, and churches, and preachers, and lecturers who address them in their own language. They have their own newspapers. They have their own picnics and excursions. With their bright eyes, they indulge in all the sports and pastimes that hearing people take part in, and are just as expert in them, too.

Reports of Schools.—We have on hand the following reports of schools: Rotterdam Institution, Sixty-sixth Annual, 1919; West Virginia State School, for 1919-1920; Ontario School, Annual, for 1918-1919; New South Wales Institution, Fifty-eighth Annual, 1919.

An Odd Newspaper.—In the magazine section of the *New York Tribune* of August 22, 1920, appeared a short

column describing a number of peculiar journalistic undertakings. In the list, mention was made of "the smallest newspaper in the world," the pages of which are only about five inches wide and six inches long, a German paper that is a panegyric upon rheumatism, containing nothing but stories about that ailment, a Russian paper that was printed in such small type that the editor furnished a magnifying glass to regular subscribers, and a monthly paper in Greenland, a three months' subscription to which costs two ducks. Also included in this category of "curios" is one that bears a familiar name. The article informs us:

> Another odd newspaper published in this same city is called the *Deaf-Mutes' Journal*, all of its editors and general staff being members of a deaf and dumb school.

However, the writer hastens to assure us that——

> The *Deaf-Mutes' Journal* is a real newspaper in size and contains four pages of interesting reading.

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